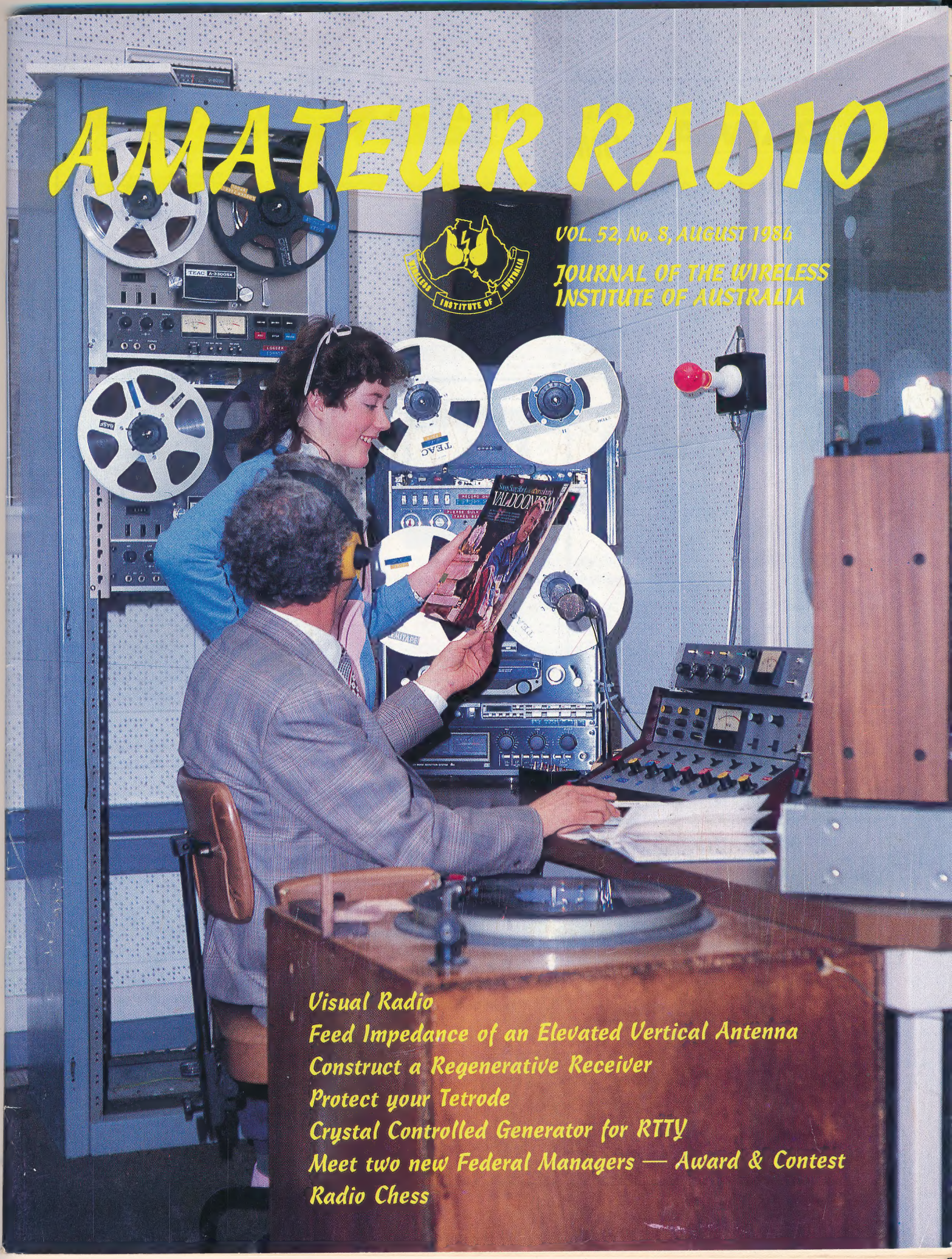
AMATEUR RADIO

VOL. 52, No. 8, AUGUST 1984

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



Visual Radio

Feed Impedance of an Elevated Vertical Antenna

Construct a Regenerative Receiver

Protect your Tetrode

Crystal Controlled Generator for RTTY

Meet two new Federal Managers — Award & Contest

Radio Chess

CROSS NEEDLE METER
DAIWA

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Telephone: 69 7625 Telex: (74)3334

ANTENNA TUNERS

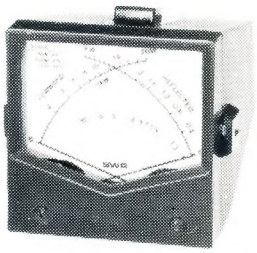
	CNW-219	CNW-419	CNW-518	CL-680
FREQUENCY	3.5-30MHz (8 bands)	1.8-30MHz (Continuous coverage 17 bands)	3.5-30MHz (8 bands)	1.8-30 Mhz (Continuous coverage 17 bands)
POWER RATING	100W CW	200W CW (3.5-30MHz) 100W CW (1.8-3.4MHz)	1kW CW (50% duty)	200W CW (3.5-28 MHZ) 100W CW (1.8-3.4 MHZ)
INPUT IMPEDANCE				
OUTPUT IMPEDANCE	10-250 ohm		10-250 25-100 ohm (on 3.5MHz)	10-250 OHM
SWR				
METERING RANGE	20 100W	20 200W	20 200 1kW	No Meter
DIMENSIONS (W × H × D mm)	225 × 90 × 245		225 × 90 × 275	165x75x95

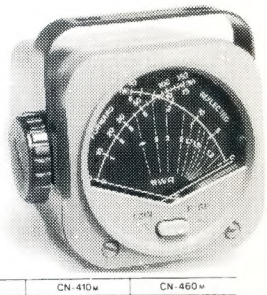
SWR AND POWER METERS

		CN-620A (B)	CN-650
FREQUENCY		50MHz	1.2-2.5GHz
INPUT/OUTPUT IMPEDANCE			
POWER	FWD	20 200 1kW (2kW)	2 20W
	REF	4 40 200W (400W)	0.4 4W
SWR DETECTION SENSITIVITY		4W min	0.4W min
TOLERANCE (full scale)		± 10%	± 15%
CONNECTORS		239	N type
DIMENSIONS (W × H × D mm)			

Compact Size Cross Needle Meters

	CN-520	CN-540	CN-550
FREQUENCY	1.8 - 60MHz	50 - 150MHz	144 - 250MHz
POWER RANGE	200 2kW	20 200W	
IMPEDANCE			
METER ACCURANCY			
CONNECTORS		SO 239	
DIMENSIONS (W × H × D mm)			

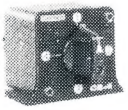




NEW MOBILE METERS

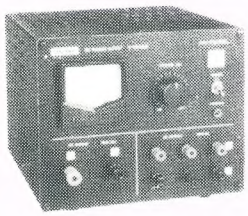
	CN-410M	CN-460M
Frequency	15 150MHz	140 450MHz
Input output impedance	50 OHM	
Ratio of Forward vs Reflected power	3:1	
Power range Forward Reflected	15W 150W 5W 50W	15W 150W 5W 50W
Tolerance	±15% AT FULL SCALE	
SWR measurement	1:1-1:0	
SWR detection sensitivity		
Input output connectors	SO-239type MI	SO-239type MI
Dimensions	71W × 78H × 100D	

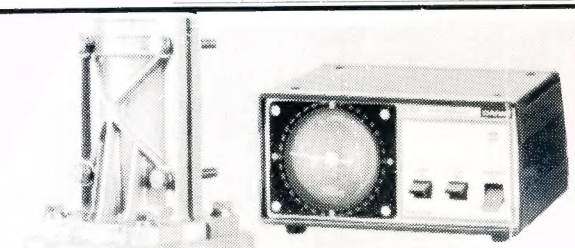
Coaxial Switches



	CS-201/CS-201N	CS-401	CS-4
FREQUENCY	600MHz	800MHz	1500MHz
VSWR	below 1 : 1.2		
POWER RATING	2.5kW PEP 1kW CW		500W PEP 250W CW
IMPEDANCE	50 ohm		
INSERTION LOSS	Less than 0.2dB		
ISOLATION	better than 50dB at 300MHz better than 45dB at 450MHz adjacent terminal		better than 60dB
CONNECTORS	SO-239 (N type)	SO-239	BNC
OUTPUT PORT	2	4	4
	Unused terminals grounded		

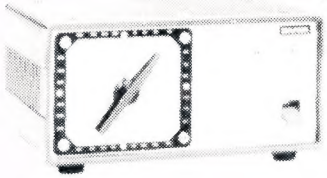
POWER SUPPLIES





Round controller with world map indicator
DR-7500R
DR-7600R

Preset controller
DR-7500X
DR-7600X



. . . PLUS THE NEW PS-80M ANTENNA ROTATORS

GOING OUT AT SPECIAL PRICES.

PLEASE RING FOR PRICES BETWEEN 9 AM AND 5 PM MONDAY TO FRIDAY.

	DR-7500R/X	DR-7600R/X
ROTATION TORQUE	500kg-cm	600kg-cm
MOTOR	24V AC	
POWER SOURCE	230V AC	
ROTATION TIME (50/60Hz)	60 50 sec	64 53 sec
BRAKE	Mechanical	Mechanical & electrical
STATIONARY BRAKING TORQUE	2000kg-cm	4000kg-cm
CABLE TO BE USED	6 core conductor cable	
VERTICAL LOAD	200kg	
PERMISSIBLE MAST SIZE	38 ~ 65mm	
CONTROLLER		
DIMENSIONS (W × H × D m/m)	180 × 85 × 120	

AMATEUR RADIO

Photograph by Ken McLachlan VK3AH

Our cover this month is taken in the studio of 3RPH–Radio for the Print Handicapped. David Ditchfield VK3YSK is photographed with trainee technician Ruth Kent. Full story see page 14.

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Acknowledgement may not be made unless specially requested. All important items should be sent by certified mail. The editor reserves the right to edit all material, including Letters to the Editor and Hamads, and reserves the right to refuse acceptance of any material, without specifying a reason.

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★ Auto **plus** manual range selection with high accuracy.
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★ Powered by 2 economical penlight cells with a long 500hr life
★ High quality probes, alligator clip plus safety shrouds on meter
★ Audible continuity tester ★ Tilt Bail ★ 12 month warranty

MODEL MM-210 – SPECS

DC Volts: 5 ranges (200mV to 1000V) basic acc: 0.75%, res: 0.1mV
AC Volts: 4 ranges (20000mV to 750V) basic acc: 1%, res: 1mV
Resistance: 6 ranges 200Ω to 20MΩ), basic acc: 0.75% 200-200kΩ, res: 0.1Ω
DC Current: 5 ranges (200μA to 10A) basic acc: 1.0%, res: 0.1μA
AC Current: 5 ranges (200μA to 10A), basic acc: 1.5% 40-500Hz, res: 0.1μA
Other features: Diode test (reads actual junction voltage, not resistance), continuity beep (< 20Ω), low battery indication, transient protection (6kV for < 10μS)

MODEL MM-230

As for Model MM-210 except **Basic accuracy:** 0.25% **AC Voltage:** Resolution 0.1mV, 5 ranges
The MM230 also incorporates a 28 position rotary switch for manual range selection. The MM-210 achieves manual selection by use of the Auto/Manual button and annunciators on the display.
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card No.

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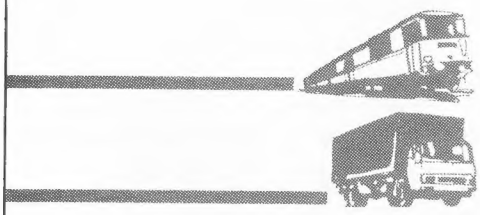
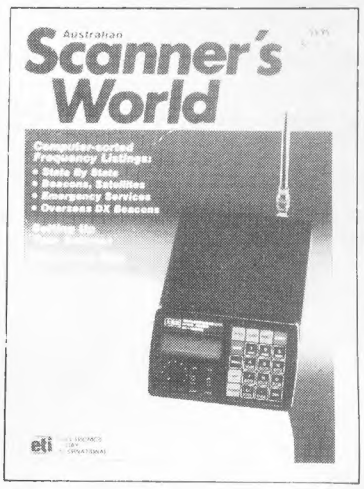
☐ Mastercard
Exp. Date / /84

WHERE THE ACTION IS!



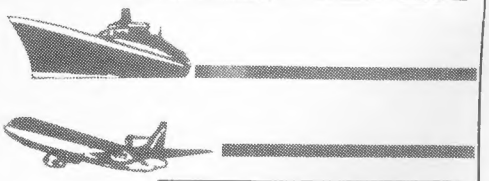
There's a whole other world of communications beyond 'the shortwaves'. Thousands of big businesses, small businesses, government and community services, amateurs and universities use the communications channels scattered from 30 MHz upwards.



How do you get amongst all this 'action'? With a VHF/UHF scanner!

But you need to know a little more than how to hand over your money, take one home and plug it in.

Australian SCANNER'S WORLD is the book that will introduce you to that other world beyond the shortwaves. It contains an introduction to scanning and scanners, an article on scanner antennas including how to build two types for yourself along with how to erect antennas. The major part of the book is the "Listener's Guide", computer-sorted listings of services throughout Australia and NZ, with their frequencies listed in both frequency order and alphabetical order by service. Beacons are listed also, along with relevant overseas ones. A roundup of scanners, antennas and accessories is also included.



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Australian SCANNER'S WORLD

at your newsagent
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Built-in computer control using 8-bit microprocessor (80C85)

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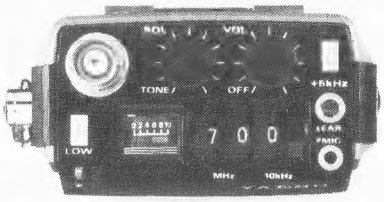
- 12 memory channels storing mode and frequency
- Rear panel connections for transverter, linear amplifier and external microcomputer interface

NEW 2m FM HANDHELDS from YAESU

FT203R
2.5 watt
144-148 MHz

VOX operation with optional YH-2 Headset.



Thumbwheel Channel Selection.

PA-3 DC/DC Car Adapter/Trickle Charger (option)

FT209R
3.5 watt/350 mW

FT209RH
5 watt/500 mW

Microprocessor controlled
10 Memories
Reverse Repeater
Power Saver to extend battery life
VOX operation with optional YH-2 Headset

PA-3 DC/DC Car Adapter/Trickle Charger (option)

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- No Leak - Rechargeable

12V 2.6AH Rechargeable Gell Cell. At last! A high current rechargeable battery ideal for alarm use. Fits perfectly into our new Security Centre, also great for other alarms. Easy to keep trickle charged.
Cat S-3320

$24.95

Massive 8" Fire Bell

Huge 8 inch fire bell with massive gonger, 12 volts operate at 300mA. Suitable for most alarm systems.

What a gonger

$34.95

Cat L-5280

Security Centre

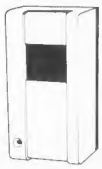
$239

This is it! The most professional alarm system we've ever seen - and it's suitable for homes, offices, factories ... you name it! With six individual sectors all fully controllable for instant or delayed alarm, each able to isolate and each triggerable by a huge range of sensors: the type of alarm used by banks, etc where security is paramount.
Cat L-5100

I/R DETECTORS

NEW! Area Sensor

Quality UK made by RACAL (top aerospace supplier) with 13 segment I/R protection. Virtually impossible to defeat, covers area up to 12 x 12m.
Cat L-5011



NEW! Beam Sensor

As left but covers corridors, halls etc up to 25m long. Changeover output on alarm, draws just 15mA from 12V supply. Guaranteed top quality.
Cat L-5012

Both Types **$119** The Ultimate in Protection!

Reed Switch Set

100% Hidden Magnetic (Reed) Door & Window Switches. What a great idea! Ideal for all alarm systems - usable in wood, aluminium & other doors/windows. They are covered by window/door when closed - no one knows they're there! Operates between 8 & 10mm.

Cat L-5212

$3.95

We're over stocked on these FP757GX SUPPLIES

Quick! This bargain won't happen again! We bought too many supplies: and we must sell them. Our loss is your gain!!! Switch mode supply with 12V @ 20A 50% duty cycle output. Ideal for most SSB transceivers. Hurry!!!
Cat D-2941

WAS $299

NOW **$199**

UHF TRANSCEIVER

The 'good old days' of amateur radio (when you proudly built your own gear) are here again! And with the all-new Dick Smith UHF Explorer, you'll end up with a transceiver of lower cost - and higher quality - than a commercial unit! YES! A complete up-to-the minute design with phase-locked-loop frequency synthesis!
Cat K-6300

value! $199

BONUS Upgrade kit to give repeater, S meter functions FREE! Normally $24.95

NEW GaAsFET Preamps

Yes - stocks due in this month of two new preamps for 2 metres & 70cm. Top quality GaAsFET with unbelievably low noise figures. You'll find signals you never knew existed! 20dB gain, 0.8dB noise index & 1.5-1VS SWR! 12 Volts operated, BNC connectors. Can be used with either relay or pin diode switching.

2 metre model: Cat D-2955 $79
70cm model (goes up to CB band!) Cat D-2955 $89

Back in Stock! FT726R

Now that so many satellites are going up, we're constantly asked for a true satellite transceiver. Here it is; and what a transceiver. You choose the plug-in modules for the bands you want to use - two additional bands can be installed along with the 2 metre module supplied.
Cat D-2950

$1299

add-on modules

Satellite Module: Full duplex crossbanding is so easy - and this module does it all for you!
Cat D-2953 $149

70cm Module: GaAs FET receiver preamp, operates over full 430 - 440MHz band with 0.15uV sensitivity (SSB, 12dB SINAD).
Cat D-2952 $395.00

6m Module: Full 50 - 53.999aMHz coverage with 0.15uV receiver sensiitivity (SSB, 10dB (S+N)/N).
Cat D-2951 $295.00

DC Power Cable: Run your FT726 from 12V - great for contests, field days, or just getting away from the QRM!
Cat D-2954 $11.50

70 cm Preamp kit

A 70cm preamp under twenty bucks? Get the most from your UHF transceiver (even works up into that other band!) with low noise figure. Easy to build kit, as described in ETI June issue.
Cat K-6306

ONLY $19.95

* See ETI April 1984 *

VHF Transceiver kit

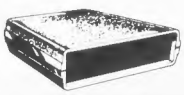
Just what you wanted to build - 2 metre transceiver with all the mod cons! And for $199, you'll end up with a transceiver less than half the cost of a comparable commercial unit. Build it yourself and save!

$199
Cat K-6308

Amateur Radio Clubs buy 5 for our discount price of $179 each

Power Supply Kit

Want to run a home base? Build this 13.8V power supply! Easy to build, uses exactly the same cabinet as the VHF & UHF transceivers. Rated at 3A peak - more than enough for either transceiver.
Cat K-6310



ONLY **$49.50**

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WIA NEWS

50–52 MHz Band

As many will be aware, in July last year, approval was granted for restricted operation in the band 50–50.15 MHz, pending further consultation with the Broadcasting Council. These negotiations have recently been completed and DOC are pleased to advise, effective immediately, amateurs are now permitted to operate in the band 50–52 MHz subject to the following conditions:

1 *Outside the transmission hours of any Channel 0 TV station*
No special restrictions on operation anywhere in Australia.

2 *Within the transmission hours of any Channel 0 TV station*

(a) Western Australia and the External Territories
- (i) 50 to 50.15 MHz — no special restrictions
- (ii) 50.15 to 52 MHz — operation restricted to a maximum transmitter output power of 100 watts p(X)

(b) Northern Territory — operation restricted to a maximum transmitter output power of 25 watts p(X)
- (i) 50–50.15 MHz
- (ii) 50.15–52 MHz — operation restricted to outside the broadcast hours of Channel 0 stations

(c) Queensland, Victoria and New South Wales
Operation restricted to outside the broadcast hours of Channel 0 stations.

(d) *South Australia and Tasmania
- (i) 50–50.15 MHz — operation restricted to a maximum transmitter output power of 25 watts p(X)
- (ii) 50.15–52 MHz — operation restricted to outside the broadcast hours of Channel 0 stations.

**This condition will not become effective until after the SBS ceases its transmissions on Channel 0, Melbourne (ie 1 January 1985). Until that time the operating conditions as set out in (c) will also apply to South Australia and Tasmania.*

AR

WIRELESS INSTITUTE OF AUSTRALIA

Following a review by Federal Executive, it has been decided that the Institute should apply for membership of the Standards Association of Australia, at the base contributing rate.

In the past, the Institute has been in the relatively small group of participants in the work of the SAA which are not members and do not contribute financially to its operation.

The SAA is an independent, non-profit body incorporated by Royal Charter. Its functions are to produce and to promote the use of Australian Standards. Its principal sources of income are subscriptions from members, proceeds of sales of standards and government grants.

Direct benefits accruing from membership of the SAA include:
- discounts on purchases of Australian Standards;
- receipt of the monthly journal – "The Australian Standard", which gives early advice of the issue of new and revised standards;
- a copy of the Annual List of SAA Publications is also provided.

However, the major consideration influencing the decision to join the Association was the growing involvement of the WIA in the work of the Technical groups such as the TE/3 Committee on Electromagnetic Interference.

Certain Standards produced by the TE/3 Committee will be called up by Regulations applying under the new Radiocommunications Act and providing additional legal protection for the Amateur Service in the EMC and Immunity areas. In addition the work of SAA Technical Committees on the Siting of Radiocommunication Facilities (TE/14/4) and on the Hazards of Non-Ionizing Radiation (TE/7) has impact on the Amateur Service and necessitates amateur representation in these committees. Membership of the SAA will enhance the standing of the WIA in this important activity.

AR

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THE FEED IMPEDANCE OF AN ELEVATED VERTICAL ANTENNA

Guy Fletcher, VK2BBF
3/34 Benelong Road, Cremorne, NSW 2090

Part 1: The effect of elevation above ground — without mathematics

The ¼-wave and ⅝-wave vertical monopole antennas, with a ground-plane of three or four quarter-wave radials, are justly popular. They are both effective, and convenient to feed directly with coaxial cable. There is a popular misconception that the base impedance of an elevated ¼-wave vertical is 36 ohms — it is NOT. The actual impedance is nearer 19 ohms, a much less favourable match to 50-ohm coaxial feeder. Part 1 of this article takes a non-mathematical look at the effect of elevation above ground level on the base impedance of a vertical monopole antenna. In part 2 I will give an actual mathematical expression for the base impedance (without too much detail of the derivation) of an antenna of arbitrary length, together with graphs of base impedance against height above ground for ¼-wave and ⅝-wave antennas. Part 3 of the article will include a discussion of the practical implications of the results, some hints for evaluating the equations of part 2 on a personal computer, and a look at that vexed question of antenna gain.

INTRODUCTION

The handbooks of the ARRL (1) reproduce regularly a graph which shows how the feed impedance of a centre-fed horizontal half-wave dipole antenna varies with height above a perfectly conducting ground, and show that at elevations below a half-wavelength the ground has a considerable effect. Les Moxon, G6XN in his absorbing book on HF antennas (2) gives the graphs for both horizontal and vertical dipoles. The corresponding graphs for vertical antennas over an artificial ground (such as ¼-wave radial elements) do not seem to be available in amateur literature, nor even in the antenna engineering books available to this author. As calculations of this kind go, they are not especially difficult to work out, though the mathematics are probably a little heavy for the average reader.

The first part of this article gives some qualitative arguments as to the likely effect of the ground on the feed impedance of an elevated vertical antenna, compared with the value for the same antenna at ground level. The ground is assumed to be perfectly conducting. This is obviously not completely correct, except perhaps for an antenna on a ship or yacht at sea, but a partially conducting ground complicates the calculations somewhat, without greatly changing the nature of the result.

We may anticipate the exact expressions given in part 2 of the article by stating that the feed impedance of a ¼-wave monopole well above ground is 19.4 ohms (compared with 36.5 ohms at ground level), and the corresponding figure for a ⅝-wave monopole is 120.8 ohms (compared with 106.5 ohms at ground level). Les Moxon G6XN has recently been conducting a one-man campaign for a value of about 18 ohms for an elevated ¼-wave antenna, and I freely acknowledge his unknowing inspiration of this article. I hope that these more detailed calculations will convince the remaining doubters.

VERTICAL MONOPOLE ANTENNA AT GROUND LEVEL

It is well known that the theoretical feed impedance of a centre-fed dipole in free space is 73.1 ohms. A ¼-wave vertical antenna on the ground radiates in all directions so that half of its radiated energy falls on the ground. Most of this (all for a perfectly conducting ground) is reflected as in a mirror, and appears to come from an "image" antenna under the ground (Fig 1).

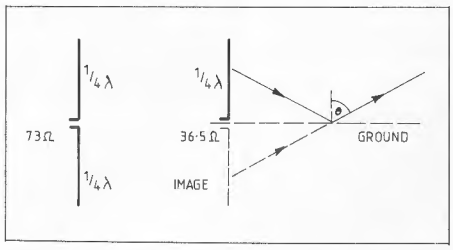

Fig 1. Half-wave dipole and quarter-wave monopole antennas.

The antenna and its image form a "complete" vertical dipole, radiating exactly as a normal half-wave dipole, with the same radiation pattern but only half the feed impedance. Simplistically you could say that the image antenna under the ground has the other half of the impedance.

To see why the antenna impedance is exactly halved, think about the total radiated power for a fixed antenna current, say 1 amp RMS. The dipole actually radiates 73.1 watts in this case. The field from the ¼-wave antenna with its image is exactly the same as from a complete vertical half-wave dipole in free space, so the power radiated in any direction is the same, except that the power is only delivered at angles above the ground. So the total power radiated by the ¼-wave antenna on the ground is 36.5 watts, exactly half that for the complete dipole in free space carrying the same current.

As far as the transmitter is concerned the antenna looks like a resistance R (the radiation resistance) absorbing power from the transmitter via the feeder. This power is given by $P=I^2R$, so if the RMS current I is the same for each, and P is halved, then R must also be halved.

RADIAL GROUND PLANE ELEMENTS

When a quarter-wave monopole is elevated above ground, it can no longer be fed directly against ground because the ground connection would have length and so radiate. The quarter-wave radials act as an artificial ground, absorbing the ground current. If this ground current is shared equally between, say, four horizontal radials, the radiation from opposite radials will roughly cancel, and little or no power is radiated by them. This cancellation is perfect in the broadside direction A for any pair of radials (Fig 3), but

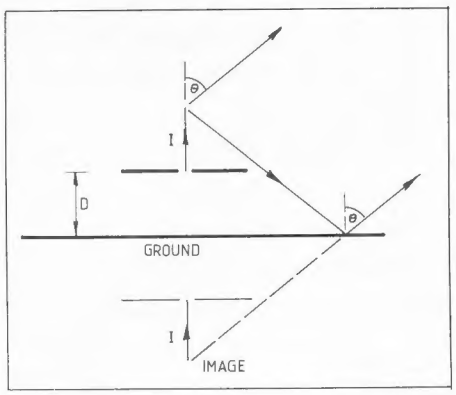

Fig 2. Elevated vertical antenna over a ground plane.

imperfect in other directions such as B due to the extra distance d the wave from one radial has to travel compared with the wave from the other. The current in the radial (and in an antenna) falls to zero at the free end, so the effective "average" source S of the radiation from a single radial is quite close to the centre of the system; let's guess it comes from one quarter of the way along, or λ/16 (the exact distance doesn't matter). Then in the worst case of nearly end-on radiation d is at most twice this, or λ/8, but antennas don't radiate end-on anyway. So the radiation from the two radials will still be nearly in opposite phases, and therefore roughly cancels.

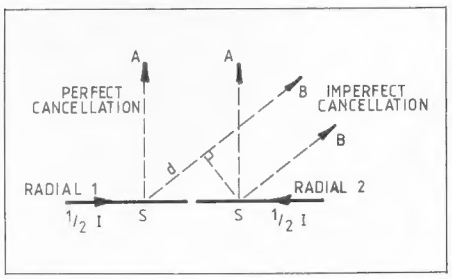

Fig 3. Radiation from a single pair of ground-plane radials (plan view).

Four radials are better than two because the current in each opposing pair is halved. In case B of figure 3 the second pair of radials (not shown) will cancel almost perfectly, being broadside. Four radials are probably enough in practice, three are adequate, and just two will work.

We need to think of the radials therefore as merely a means of "sinking" the ground current without radiating. Most important, they do NOT act as a mirror reflecting the downward radiation from the vertical element. For the low angle radiation of interest to amateurs a ground plane would need to be much more extensive than λ/4 before it could act as a ground mirror. The only reflected wave comes from the true ground lower down.

ELEVATED VERTICAL MONOPOLE ANTENNA

Now we can think constructively about the effect of raising a vertical antenna (with its non-radiating ground plane) to a height D above the true ground (Fig 2). As D increases from zero the extra path length for the reflected wave (rather like d for the two radials in Fig 3) increases, and the radiations from the two halves no longer reinforce so well. As D gets even bigger they may even cancel each other, first in the vertical (up) direction and then at lower elevations. What will this do to the radiated field and power when D is large?

The field will oscillate with angle of radiation θ between its "original" value for reinforcement (as when D=O) and zero. The radiated power will also oscillate between its "original" value (at angles θ corresponding with reinforcement) and zero (at cancellation). The average power radiated by the antenna in all directions is therefore halved, and so the feed impedance is halved from 36.5 ohms to 18.25 ohms. Now actually even at D=O the direct and reflected waves do not reinforce perfectly, so the average power is not quite halved. We may expect a feed impedance rather greater than 18.25 ohms.

If you find this argument confusing, we can come at it from the opposite direction. Suppose you have a vertical antenna (with its ground plane) in free space already, and then place a perfect earth directly under it (D=O). Obviously all the downward radiation is now reflected and will be approximately in phase with the direct radiation for any angle θ. This will nearly double the field in every direction, giving correspondingly four times the power. So we have four times the power in every direction, but now only over half of all space (above horizontal). The effect of adding the ground is therefore to multiply the total radiated power by 4 x ½ = 2. So from $P=I^2R$, twice the power means twice the feed impedance. The antenna on the ground has nearly twice the feed impedance of the one in free space. But we know that the one on the ground has a feed impedance of 36.5 ohms, so the one in free space must have a feed impedance of 18 ohms or so.

For antennas longer than ¼-wave, the direct and reflected waves with the antenna on the ground come from further apart and are no longer so nearly in phase. So the argument of the previous paragraph shows that the addition of a ground will not have such a big increasing effect; it may even reduce the radiated power by interference effects, so that the elevated (or free space) antenna actually has a higher feed impedance, as in the case of the ⅝-wave antenna!

(to be continued)

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(1) "The Radio Amateur's Handbook", ARRL, chapter on HF antennas, eg 1977 edition, page 590.
"The ARRL Antenna Book", chapter on Antenna Fundamentals, eg 1974 edition, page 50.
(2) "HF Antennas for all locations" by L A Moxon, RSGB 1982, page 102.

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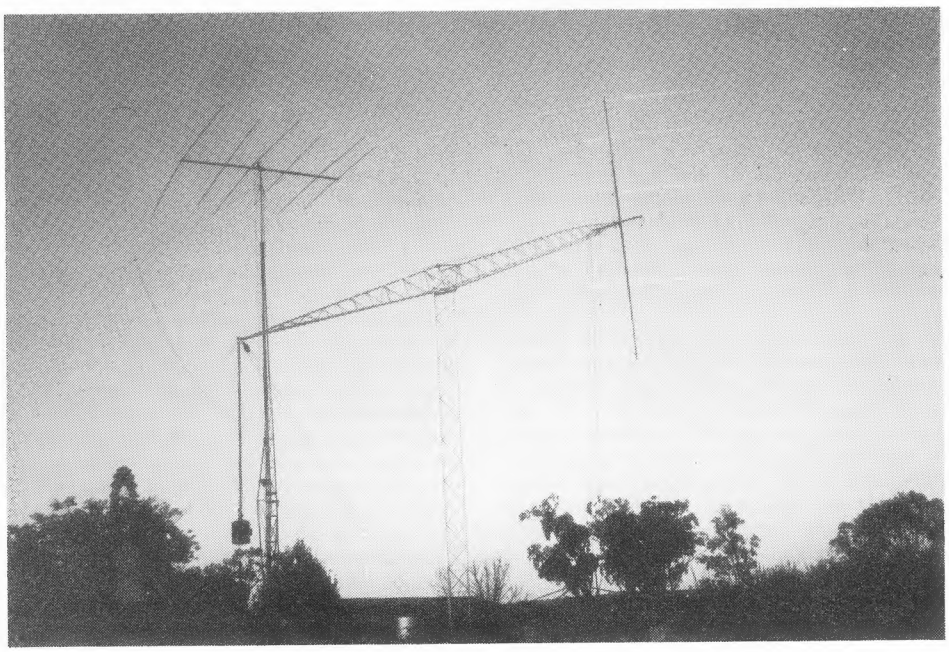

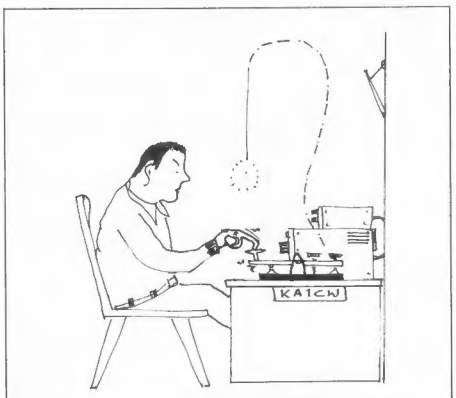

"I think I'm losing propagation!!"
VK2EBM

HOMEBREW TOWERS AND ANTENNAS

The large tower carries a duo bander for 15 and 20 metres and twin four element yagis for 2 metres. Height is twenty six metres — height from ground to hinge is nine metres. Dipoles for 160, 80 and 40 metres have their feed point just below the HF beam.

The smaller tower is twelve metres high and carries a duo bander for 15 and 20 metres.

Contributed by Roley Norgaard, VK4AOR
AR

A Regenerative Receiver

Harry Voake, VK3AVQ
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This type of receiver was very popular in the 1920s and 1930s. Upgraded to use modern devices and techniques, it can still be useful. The author's original reason for building this receiver was to copy weather forecasts and navigational warnings on the marine frequencies below the broadcast band ie 500, 425 and 375 kHz for the purpose of Morse practice.

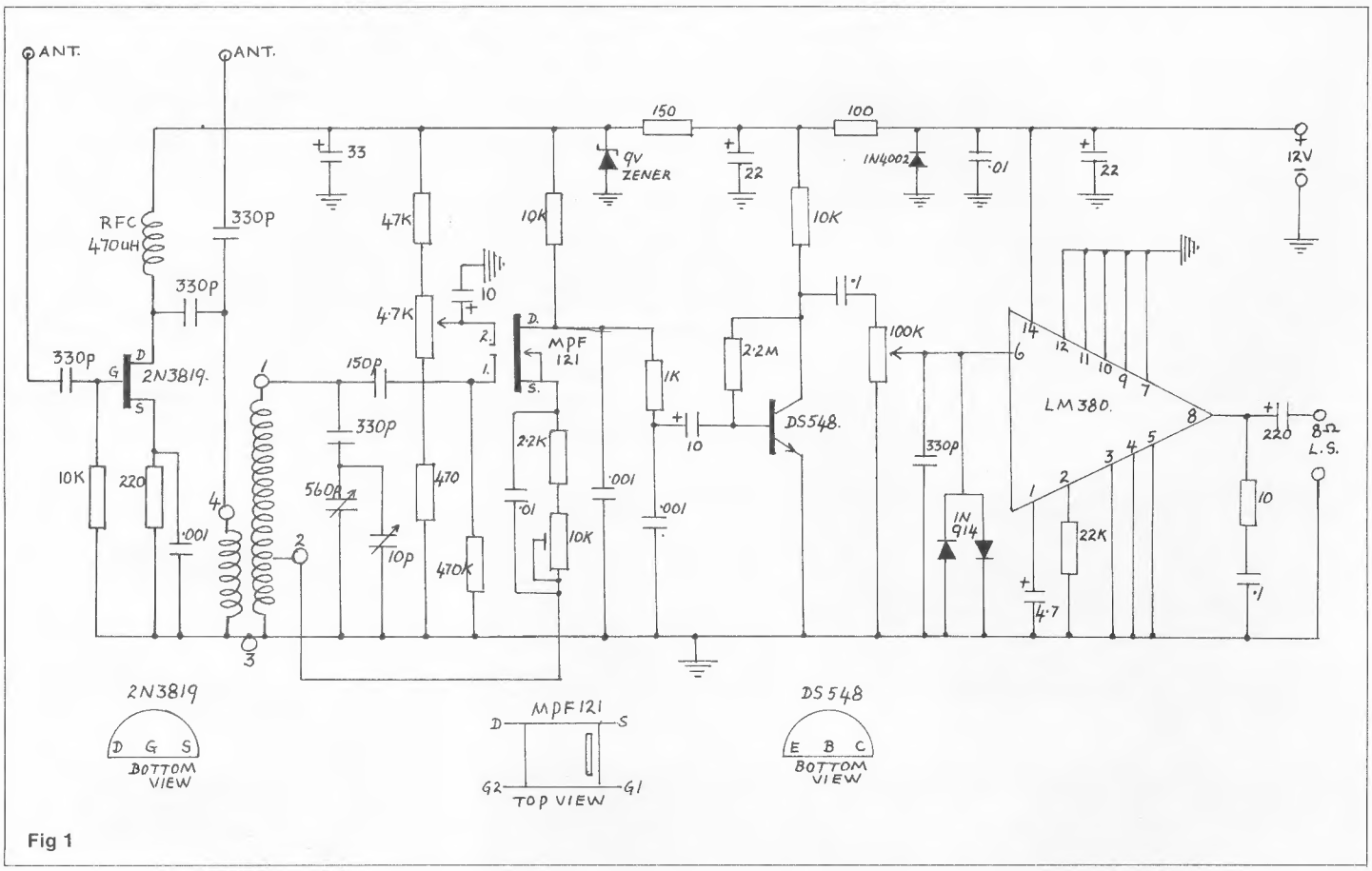

Fig 1

The design borrows heavily from an article in an English radio magazine[1]. Alterations were mainly decided by what was in the junk box, and for a simple regenerative receiver results were surprisingly good. Both VIS and VIM (Sydney and Melbourne coast stations) came in strongly at this location, as well as ships in the vicinity and numerous long wave beacons[2] by using a random length antenna of fourteen metres long sloping down from a single pole of eleven metres high.

A single sided printed circuit is used with the copper side uppermost. In this method the components are soldered directly which greatly simplifies any alteration that may be required.

The printed circuit board is made by covering the copper with 5 cm masking tape, overlapping to make the width, burnishing with a spoon handle or such to remove any air bubbles and then transferring the circuit design by carbon paper to the masking tape. The tape to be lifted off (the part to be etched away) can be cut out by a single edged razor blade. Here a little care produces a superior board (Fig 2). The masking tape is an efficient resist for a gentle etchant like Ferric Chloride but stronger etchants may undercut the tape.

The fine cutting required for the LM380 amplifier was not attempted, instead a piece of Vero board 27 mm x 25 mm was used as the holes neatly fit the fourteen terminal DIL socket. Each grounded terminal of the socket is individually soldered to the copper laminate by a suitable size copper wire (eg 22 SWG). This acts as a heat sink and holds the Vero board to the PCB in the open space available. Fig 3 illustrates the Vero board connections.

COILS

As can be seen, the coil connections are made by four alligator clips that are fastened to the board by eight BA screws and then soldered for good electrical contact. The board at that point is reinforced underneath by ⅛ inch insulating material to take the weight when the plastic bar joining the clips is pressed to open.

A second coil was wound for the 3-8 MHz band where machine sent transmissions from commercial Morse stations give excellent copy[3]. It also includes the 80 and 40 metre amateur bands.

The low frequency coils ½ and ¾ are scramble wound in pies and coil ⅔ is close wound, all with 32 SWG enamel copper wire. The pies are made of 1 mm cardboard, 28 mm OD and 22 mm ID. Four mm strips of cardboard are glued to the plastic tube at the correct spacing and the annuli are then brought up to each side of the strips and glued in position. Slanting razor cuts are

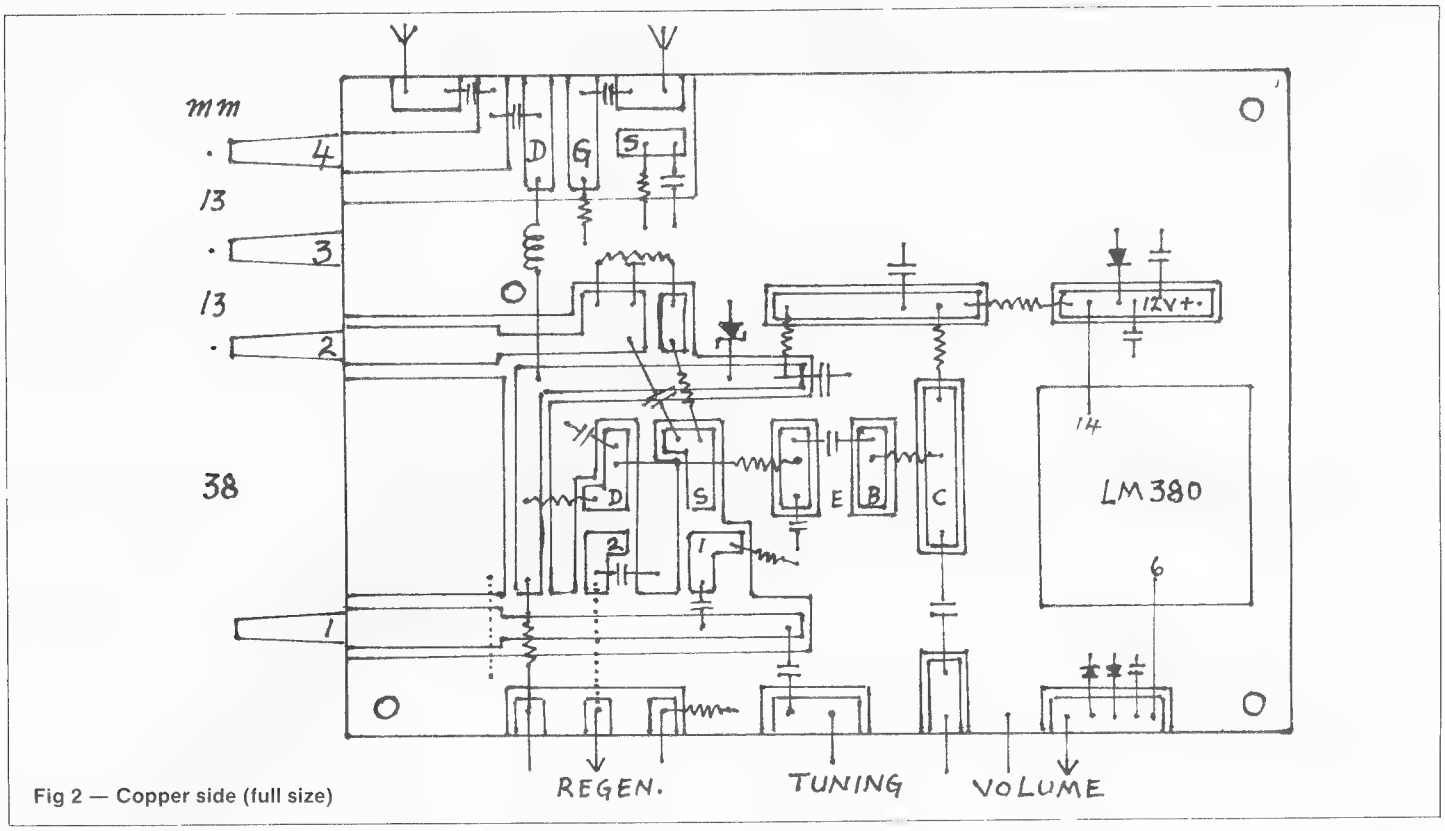

Fig 2 — Copper side (full size)

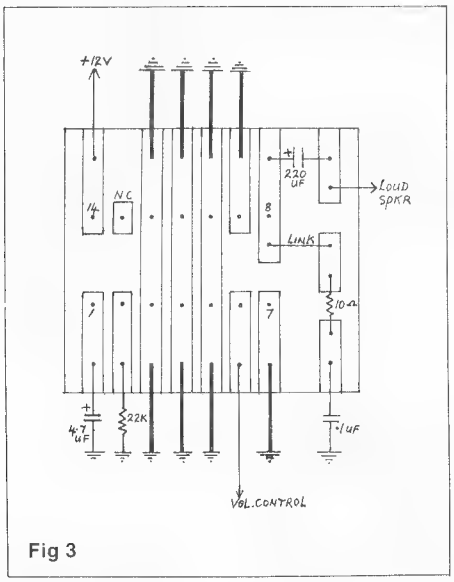

Fig 3

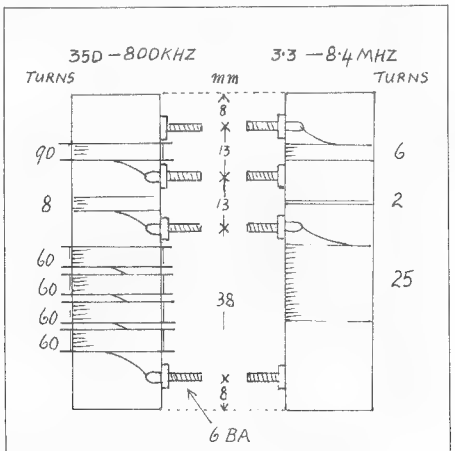

Fig 4

made in the side pieces to allow for entry and exit of the wire.

The high frequency coils are all close wound with 22 SWG enamel copper wire and lightly smeared with Araldite. All coils are wound in the same direction on 22 mm OD plastic tubing. Fig 4 illustrates the dimensions

An RF amplifier is used on the higher frequencies to increase the signal strength and reduce the natural radiation of regenerative receivers. The lower band does not require this amplifier as the extra signal strength tends to exaggerate the lack of selectivity, increasing station overlap. This of course depends on the location of the receiver. For this reason, two antenna input terminals are available to suit conditions.

BAND SPREAD

Direct tuning is adequate for the lower frequencies with band spreading having little effect, but on the higher frequencies, a delicate touch is required with the main tuning and here the band spread control is necessary.

As in all regenerative receivers, the most sensitive condition occurs at the threshold of oscillation. To receive CW and SSB transmissions, the detector is oscillating and for AM — not oscillating

The dual gate MOSFET goes in and out of oscillation very smoothly, controlled by the positive potential on gate 2. The set trimpot is merely used to overcome the individual differences of various MOSFETS, a middle position is usually right.

On the front panel, the main tune is mounted above the PCB, with the regen control, band spread tuning and volume control below the PCB. Do not rely on the front panel for the earth return of the tuning capacitors, solder short copper connections to the copper laminate.

The power supply is a simple 12 V arrangement, regulated by a three terminal regulator such as a 7812, although the current drawn by the receiver is only 28 mA for normal listening levels so battery power is feasible. Current required for loudspeaker operation is from 50 to 150 mA, depending on loudness of signal.

REFERENCES

1 "The LMS receiver" by R F Haig 'Practical Wireless' Feb 1983

2 Dick Smith catalogue 1982 83 Data section

3 Amateur Radio July 1982 page 29

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EMC

(Electro Magnetic Compatibility)

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PROTECT YOUR TETRODE

Jim Beckitt, VK4AJI
PO Box 1991, Cairns, Qld 4870

Having constructed a 70 cm power amplifier using a 4CX250 tetrode I decided to build a power supply that would offer some protection to the valve. The power supply is designed to shut down the screen grid supply should any of the following occur . . . Loss of plate voltage, Loss of grid bias, Screen current exceeds a preset level or the Blower fails.

Operation of the heater switch (htr) provides 240 VAC to transformer T1 and the blower motor. A paddle operated microswitch is activated by blower pressure and prepares the operate path of relay SC. T1 (an old TV transformer which I rewound) provides heater voltage, control voltage, and 6 VAC as the primary voltage for the bias supply transformer.

(Note: The control DC voltage was set at 17 volts because the relays I had on hand seemed a little reluctant to operate positively on 12 V. The heater winding was wound for 6.3 volts and then adjusted for the required voltage at the valve socket by series resistance.)

At this stage LED LD1 indicates 'power on', LED LD2 indicates 'screen supply fail', and LED LD3 indicates 'grid bias and plate supply fail'.

Bias voltage, supplied by transformer T4, is bridge rectified and stabilised by a 39 volt 10 watt Zener. The Zener current flows via the LED of an opto-isolator (Tandy TIL119/4N31). This forms the bias supply monitoring circuit. The bias can be switched to class AB1(2) or C by switch SW1, the voltage being set by two 10 k 2 watt pots.

HIGH TENSION

When the high tension switch (HT) is operated 240 VAC is supplied to transformer T2. The secondary, 1450 volts, is bridge rectified to produce approximately 2 kV DC. Each leg of the bridge has four 1 kV PIV 3 amp diodes, each diode bypassed with a .01 MFD 3 kV capacitor and a 270 k 1 watt resistor.

The filter bank consists of sixteen 100 MFD 350 VW electrolytics in series parallel to give 25 MFD at 2800 VW. Each capacitor section is bypassed with a 22 k 10 watt resistor to equalise the voltage across the bank. This resistor chain also forms the HT bleed. At the cold end, an 820 ohm resistor is used to provide approximately nine volts for metering and monitoring of plate voltage. This voltage is fed to opto-isolator one which monitors the plate voltage as well as the grid bias. If both voltages are present the opto-isolator biases Q1 (2N3642) into conduction, which in turn operates relay HT. Contact HT1 now provides seventeen volts to relay SC via contact SOC1 (released) and the air flow monitor switch (OP). LED LD2 is extinguished and contact HT2 breaks the path of LD3.

Relay SC is fitted with a microswitch which controls the primary of the screen transformer T3.

The screen voltage is stabilised at 350 volts for linear service by a bank of seven 50 volt 10 watt Zeners. Provision is made to lower this voltage for class C operation by switch contact SW1(C). A 22 k 10 W resistor serves as a screen bleed to protect against high screen voltage which can occur under certain conditions.

FAILURE SEQUENCES

Thus it can be seen that the loss of bias or plate voltage will cause relay HT to be released. Relay SC then releases and the microswitch opens the primary of the screen supply. Either of these faults will light LD2 (screen fail) and LD3 (bias-HT fail).

Loss of air flow will release the air flow microswitch which also releases SC and thus cuts the screen supply. In this case LD2 will light. With the values shown the screen supply shuts down when the plate supply drops to approximately 1100 volts.

Monitoring of the screen current is achieved with an opto-SCR (Tandy SCS11C3) which monitors the voltage drop across a 150 ohm resistor in the screen lead. Sensitivity is set by a 5 k trim pot. Once fired, the SCR locks up relay SOC. Contact SOC1 releases relay SC which opens the primary of T3. Contact SOC2 operates the 'screen fail' LED. The supply cannot reset until the mains is momentarily removed by switch HTR.

With the values shown the mid range of the trim pot sets the trip out at approximately 30 mA.

If required, an audible alarm could be connected to earth and via an isolating diode to the lever spring of contact SOC2 and another isolating diode to the lever spring of contact HT2.

Transient suppression is achieved by a .01 MFD 3 kV capacitor across the primary of T1 and by a combination of a .01 MFD 3 kV capacitor and a thyrector across T2 and T3.

Switch-on surge suppression for the plate supply is accomplished by a 100 ohm 30 watt resistor which is in series with the primary of T2. Relay SL (which has a 240 VAC coil) will not operate at switch-on due to the voltage drop across the 100 ohm resistor. The initial surge dies down as the filter capacitors start to charge and the voltage drop across the series resistor drops to a point where SL can operate. The contact of SL shorts out the resistor and full mains voltage is then applied to T2.

METERING

Separate metering is provided for plate voltage and current. One meter is used to read both screen voltage and current, selected by switch SW3, and one other meter reads grid current or relative power output, selected by SW2. Relative P/out is obtained from the detected voltage of a sampler in the plate compartment. The plate and screen meters are wired so that they do not read the bleeder currents. The screen meter is an offset zero type so that negative screen current can be read.

Relay PTT operates to earth on the PTT lead and contact PTT1 switches the bias between cut-off and operating. Contact PTT2 supplies 17 V to operate the aerial changeover relays, a series resistor reducing this to 12 V at the relay coils.

CONSTRUCTION

Finally, a couple of comments on construction — the plate and screen supply components were mounted on 3 mm thick perspex plates, terminals being provided by pop riveting small double sided earth lugs to the perspex. These plates were then mounted vertically in the power supply box.

Relays SC, SL and the 100 ohm 30 W resistor were mounted in a 100 by 100 mm plastic electrical junction box to keep them out of harm's way.

The screen Zener chain is mounted on the chassis for heat sinking so care is required to make sure that the insulating mica washers are wide enough and thick enough to avoid breakdown. **AR**

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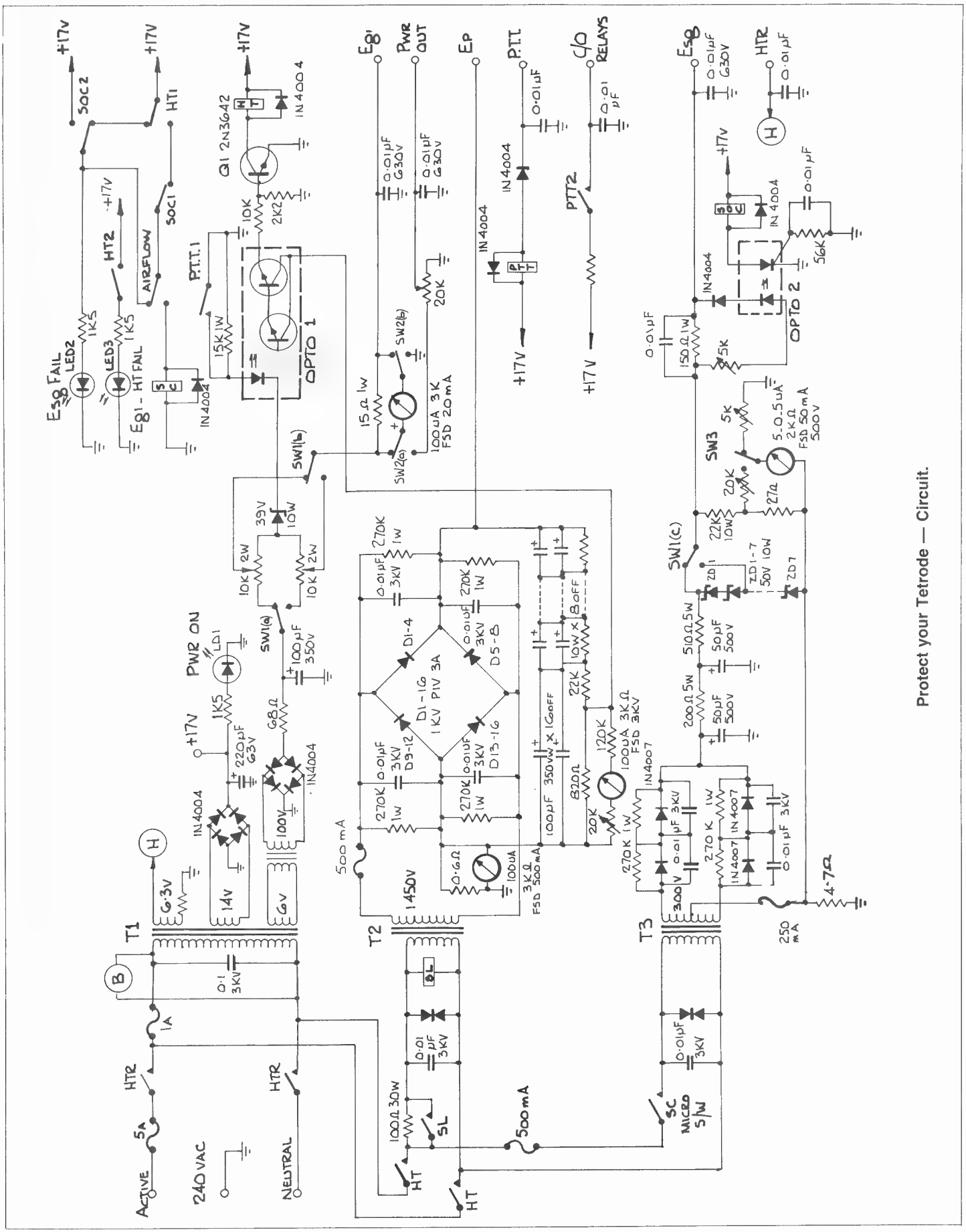


Protect your Tetrode — Circuit.

A CRYSTAL CONTROLLED AFSK GENERATOR FOR RTTY

Maurie Hooper, VK5EA
11 Richland Road, Newton, SA 5065

A circuit is presented for a RTTY modulator which is simple to construct, and once set up requires no further adjustment. A piece of veroboard or similar, less than $5 for TTL ICs, a crystal from the junk box plus a few resistors and capacitors are all that is required.

The wiring layout is not critical, but it is worthwhile using sockets for the ICs.

The unit eliminates the following disadvantages in many other designs:

(a) frequency drift.

(b) switching spurii when changing from one frequency to the other.

By using a "user programmable" divider circuit, virtually any crystal in the range 1 to 10 MHz can be used to provide a frequency accuracy of a few hertz.

CIRCUIT DESCRIPTION (SEE FIG 1)

IC1A and 1B, together with the crystal, resistors and capacitor form a simple oscillator whose output is fed to a sequential divide by two chain comprising three 7493 binary counters (IC2, 3, 4). Decoding the outputs of this dividing chain by two 7430 NAND gates (IC5, 6) provides the two required frequencies (Fig 2 gives a partial timing diagram). IC7 is a dual edge-triggered D flip-flop which is used in a novel manner. IC7B is used to select the frequency required, depending on the logic level (+5 V or 0 V) at the data input pin 12.

IC7A uses the D flip-flop configured as a toggle or divide by two circuit, to produce a true 50 percent duty cycle square wave ouput of either 2125 Hz (mark) or 2295 Hz (space). IC1C produces a narrow positive-going pulse each time IC5 or 6 decodes the correct frequency divisor. This pulse is used to reset the dividers to zero, toggle IC7A to produce the output frequency, and to clock IC7B to check whether the other frequency has been selected during the preceding half-cycle of the output and thus switch to the other eight input NAND if necessary. (In Fig 1 a 0 V TTL input produces the "mark" frequency.)

The circuit as shown uses a 3.291 MHz crystal and produces frequencies of 2126.0 Hz (mark) and 2295.0 Hz (space). With a crystal of about 3 MHz the frequency error from the desired values will not be more than 1.5 Hz.

For those who are not mathematicians, a relatively straight-forward method is described to determine the wiring necessary to decode the outputs of the divider network to suit the crystal that you intend using.

DECODING THE DIVIDER NETWORK

Since IC7A divides the output of the decoders by a further two, the decoding must produce outputs of twice the mark and space frequencies ie 4250 Hz (mark) and 4590 Hz (space).

Let F be the crystal frequency (in Hz!), and Dm and Ds be the divisors required by mark and space respectively. Calculate Dm = F/4250 and Ds = F/4590. As an illustration the calculations for the circuit of Fig 1 (F = 3.291 MHz) are given — Dm = 774.4 and Ds = 717.0. Since the circuit can only divide by whole numbers (integers), round these values to the nearest whole number, giving Dm = 774 and Ds = 717 (the frequencies may be checked — f = F/(2 × D).

The next step is to convert these two divisors from decimal to binary — and a relatively simple method is shown.

You simply have to find the combination of powers of 2 that sum to give the required divisor, by successively subtracting the largest possible power of 2 from your divisor until the remainder is 0. The following illustration uses Dm = 774 and Ds = 717. See Table 1.

Using the circled labels in Fig 1 you should now be able to make the right connections between the dividers and the NAND gates. However, a maximum of seven connections are available at each NAND gate, as one is required for the select circuitry from IC7B — if this is the case omit the lowest powers of 2 and calculate your output frequency (you

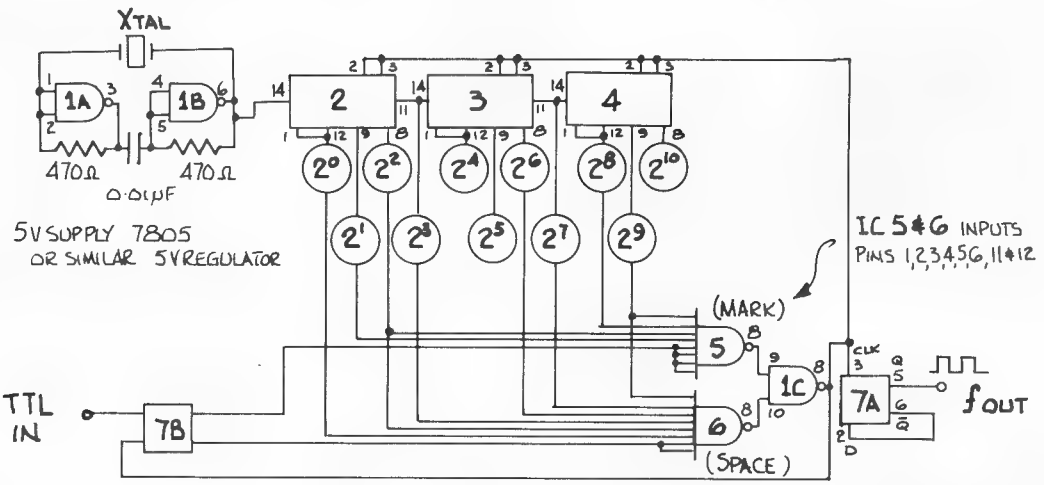


Figure 1: ASFK Generator

IC1 7400 5 V pin 14, GND pin 7
IC2,3,4 7493 5V pin 5, GND pin 10
IC5,6 7430 5 V pin 14, GND pin 7
IC7 7474 5 V pins 1,4,10,13,14 GND pin 7

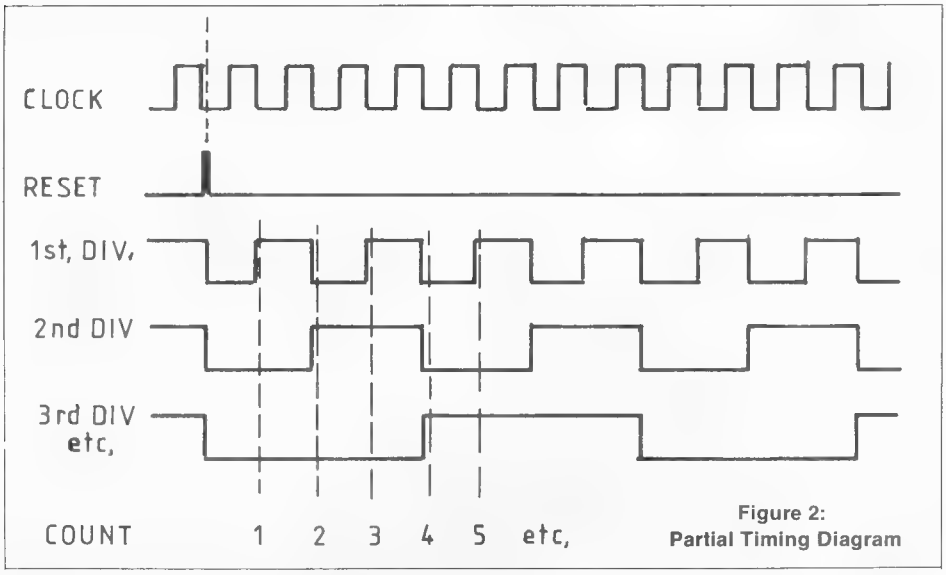


Figure 2: Partial Timing Diagram

Powers of 2	Mark	Space
2^{10} = 1024	774	717
2^9 = 512	-512 (2^9)	-512 (2^9)
2^8 = 256	262	205
2^7 = 128	-256 (2^8)	-128 (2^7)
2^6 = 64	6	77
2^5 = 32	-4 (2^2)	-64 (2^6)
2^4 = 16	2	13
2^3 = 8	-2 (2^1)	-8 (2^3)
2^2 = 4	0	5
2^1 = 2	giving $2^1+2^2+2^8+2^9$	-4 (2^2)
2^0 = 1		1
		-1 (2^0)
		0
		giving $2^0+2^2+2^3+2^6+2^7+2^9$

TABLE 1 — EXAMPLE OF CALCULATION

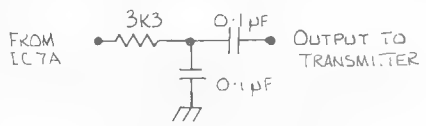


Figure 3: Output Filter

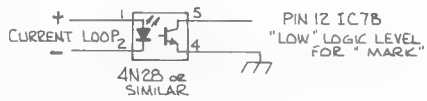


Figure 4: Current Loop Interface

may have to try another crystal). Any spare NAND gate inputs should be connected to the selector circuit line as shown.

FILTERING

The output is a square wave and some filtering is desirable to lower the higher harmonic content. A Butterworth low-pass filter could be used, but for most situations a simple RC filter (Fig 3) will suffice.

INTERFACING WITH A RTTY CURRENT LOOP (20 OR 60 mA)

A simple opto-isolator (Fig 4) will provide a suitable means of coupling the RTTY current loop to the input of the modulator, with excellent circuit isolation.

With this modulator, your signals on VHF (and HF) should be beyond reproach! Best of luck.

"International friendship through amateur radio"

Marc De Moor, ON1GR,
Vredestraat 13, B-9720, De Pinte, Belgium, Europe.

The De Moor and Cunningham families from front left to right — Helen, Trees, Jan, Dale, Kirby, Gai, Tom and Peter.

I think it was at the end of 1978 or the beginning of 1979 that I wrote a letter to the Wireless Institute of Australia. I asked if it was possible to publish my request in "Amateur Radio". I should like to find an amateur who would correspond with me. My question was published and VK7KC, Kirby Cunningham was one of the amateurs who wrote to me. We continued writing and at the end of 1982 Kirby wrote he planned a journey to Europe with his wife and two little children during the months of April and May. We invited them to spend a few days with us. On Thursday 31st March at seven o'clock in the evening our visitors arrived in their red mobile home.

It gave a strange feeling to meet people from our antipodes who one only knows by letters. They spent four days with us. They lived with us; they worked with us and we showed them a part of our family and country. We visited some amateurs (ON6HA, ON4OE, ON5UK) and were present at the club meeting on Friday evening. We participated in the weekly Sunday morning talk on the air of the club. We visited a war museum in Ypres where we found also the names of Australian soldiers who died in World War I. In the Antwerp Zoo our friends saw animals which lived in . . . Australia!

Easter is a big day for children in Belgium. Children are told that all the bells of all the churches go to Rome on Maundy Thursday to get chocolate eggs which they hide, coming back on Easter morning. When the children wake up they look for the eggs in the garden (when the weather is good) or in the house. For us it was an occasion to speak English. Our native language is Dutch. Our children — Tom 6, Peter 4 and Jan 2 found it nice to play with English speaking children — Dale 5 and Helen 4. They did not have problems understanding each other. The language of children is universal.

When they started their trip in Europe on 5th April and left us, we missed something. They had become a part of our family. They promised to come back before going to Great Britain in the beginning of May. They did and spent the weekend of 7th and 8th May with us. On Sunday evening 8th May, Mother's Day, they left us finally in Bruges, one of the oldest and most beautiful towns in Belgium. It gave us a melancholy feeling to leave somebody and to know that the chances of seeing them again were very, very small.

On Belgian Radio and Television — second programme, BRT-II, there is a very popular programme every Saturday morning from eight till ten o'clock in the morning which is called "Te bed of niet te bed" (In bed or not in bed). The programme is produced by Jos Ghysem. Stickers with the name of the programme can be bought to stick on a car. I bought a sticker for our friends, to put on their mobile home to take with them along their trip in Europe. I wrote to the producer. He found it interesting that I publicised his programme in this way and he asked me to call during his programme. I did so and I told the story for his listeners. The BRT sent me money to buy a cake, which we ate with our friends in the weekend of 7th-8th May.

AR

Cover Story —

VISUAL RADIO

Jim Linton VK3PC
4 Ansett Cresent, Forest Hill, Vic 3131

The Radio Enthusiasts Club Of The Blind was formed in 1978 as a self-help group to promote the educational, recreational and social aspects of amateur radio.

Based in the Melbourne suburb of Kooyong it operates as a national club for those with a visual handicap.

It sends material on the subject of hobby radio to subscribers interstate and also has a fortnightly programme on 3RPH — Radio for the Print Handicapped which operates on 1.629 MHz in the AM broadcast band.

The material sent through the mail and read on its 3RPH programme called "Feedback" includes AR magazine — complete with advertisements.

The station operated by the radio for the Print Handicapped (Victoria) Co-operative Limited is part of the Association for the Blind.

Recently a studio interview guest was the WIA Victorian President who discussed the Institute's role and activities.

Jim VK3PC — interview guest on 3RPH.

The Radio Enthusiasts Club has close links with the Institute, being a member club of the Victorian Division.

Radio 3RPH is a relatively new station with a large variety of programmes suited for all ages — its primary aim is to be an alternative media for the visually handicapped.

It's one of four RPH stations throughout Australia — all welcome listener QSL reports.

Technical officer for the association, David Ditchfield VK3YSK explained that being visually handicapped in most cases means having some useable vision.

He said the association helps people make the best use of what little vision they have.

Among the members of the Radio Enthusiasts Club are a lawyer, social worker, musician and several hospital workers.

David said club meetings held on the third Wednesday of each month at the H M Lightfoot Centre, 454 Glenferrie Road, Kooyong often have guest speakers discussing the use of equipment and safety aspects.

Radio Enthusiast Club Member Peter VK3DBW adjusts the volume of his hand-held so others can hear his contact.

SPARC members, led by their President Frank VK3DAF (standing) enjoy a lunchtime chat with visitors from the Radio Enthusiast's Club.

Technical Officer for the association, David VK3YSK.

Club members also go on field-days and organised tours of various places such as D24 Police Communications Centre, Radio Australia, OTC coast station, Melbourne Radio and TV stations.

Recently the Radio Enthusiasts Club and the Southern Peninsula Amateur Radio Club held a joint field-day and picnic on Victoria's Mornington Peninsula.

David said studying for an amateur licence was one aspect of the club's education role and it has available braille, large print and sound recorded copies of suitable literature.

Scale models of radio apparatus, components and circuit diagrams are also used for instructional purposes.

The club has a complete course on tape which helps prepare its members for the DOC examinations.

A number of people have now obtained their own licence with assistance of the club.

He said: *"After they get a licence some would like to have the opportunity of visiting other radio clubs, particularly those in the Melbourne Metropolitan area, and assimilating with other radio amateurs.*

"The problem is difficulty in getting transport to the clubs — one of our members would dearly like to occasionally visit a club but was set upon by two youths one night and won't risk another attack.

"Personally I can't get to a club of which I'm a member because of the transport problem."

How about it club committees — give the matter some thought.

By encouraging visually handicapped members of our fraternity to come to meeting nights they will benefit from the social atmosphere and the clubs will gain an active new member.

David said the Radio Enthusiasts Club was available to help anyone with a visual handicap who has shown an interest in radio and electronics.

Upgrading work was planned on the club station VK3DBN and it's hoped with the installation of a tower with beams it will have a much better signal on HF and VHF to increase this side of the hobby for members.

AR

MURPHY . . .

Page 11 — July AR

A line of text was omitted which should read . . .

$I = \sqrt{W/R}$

THUMBNAIL SKETCHES

Alan Shawsmith, VK4SS
35 Whynot Street, West End, Qld 4101

WALTER JAMES RAFTER, VK4PR

Now SK but affectionately remembered as Jimmy, James or "Peter Rabbit".

Future amateurs may be forced to suffer from a form of personality deprivation if present trends to automation continue. Past operators, of course, had no such limitations — or even thought of it; they were able to bring the full play and potential of their personality to each QSO by means of voice. And no one did it better than VK4PR who, via the bands, earned himself the title of one of Aussie's Great Ambassadors. He was a natural raconteur and never missed a chance to promote VK or AR. His eagerness to help anyone in any capacity meant he could become universally known. Because of his participation in DX nets his friends were legion and at his death they proposed to establish, in his memory, a "Peter Rabbit Net". May it grow and long survive.

Jim's interest in AR was first fired up when, as a young man, he began work with the Brisbane firm of Music Masters, manufacturing and servicing broadcast sets. He then went on to serve with distinction in WWII (RAAF WAG 36 Sqdn 1941-1946). Post-war he worked until retirement as a Radio Technician for DCA 1947-1977.

The DX record of VK4PR is impressive. Always within QRP limits, ie 100 W input, his country tally was 300+ on SSB — almost without trying. He followed up many of his DX contacts with eyeball QSOs; travel, wine and food and friends were the added spice to Jim's life.

A member of the WIA and ARRL, he served the former as VK4 President in the 1940s for a term. He was also a foundation member of Brisbane DX Club. May this writer venture to say that whenever and wherever DX friends meet the name of Peter Rabbit is as likely as not to enter the conversation. For his services to the VK4 Division he received the WIA Badge No 9 and Certificate of Merit.

AR

NORM V HART, VK4KO.

Licensed since 1931, Norm can lay claim to that rare distinction of being a genuine OOTer, ie over 50 years active in AR. Mainly a brasspounder and DXer, his immaculate keying is a familiar sound on the bands.

Norm's first introduction to AR began in 1928 with a visit to the shack of Perc Woods, OA4RO, later VK4RO, then VK4PW and now VK2PEW. His interest has never waned. Like most OOTs, all his gear was home-brewed until recently when he relented and bought a Kenwood transceiver. His first ever rig was a Hartley oscillator using a 201 A at 10 W input; modulation was loop — one turn around the tank coil fed into a carbon mike. Norm reports the DX worked with it was surprising. Laminations for the 300 V power trannie were tin snipped from an old stove pipe. Chokes were old T model Ford spark coils. The rectifiers were discarded pickle bottles with a saturated solution of borax — three bottles in each trannie leg did the job. Filter condensers were tin foil from tea chests and waxed paper, rolled up and made as large as possible for maximum capacity. Crystals were spectacle lenses ground to a suitable frequency and placed between two smoothly polished pennies. Frequency checking had to be done with the simplest type of absorption wave metre — surprising accuracy was obtained. The sky hook was an end fed zepp, fed from the Hartley oscillator by open wire feeders (600 ohms) and inductively coupled.

That's how Norm, VK4KO put his first rig together and both the building and using was an infinite labour of love. Besides being a member of the WIA since 1927 he has the honour of life membership of IREE. On the local scene he is a member of the Ipswich Radio Club.

Norm's long, active and productive life has been "electronics all the way"; outside AR his profession has been Radio and TV Servicing. He is now enjoying a well-earned retirement, which gives him time for another hobby, one he has pursued since his schooldays — Philately.

VK4KO can also take pride in the fact that his AOCP license is No 173; this makes him a "fair dinkum" early days experimenter. May we have the pleasure of hearing his key on air for many years yet.

AR

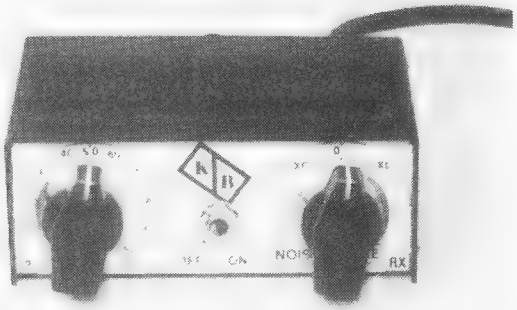
REMEMBER

When advertising items in Hamads always please write separate classifications on separate sheets of paper, including ALL details, eg name, address, callsign, on both. Please write copy clearly and use paper of a reasonable size. It is also advantageous to insert your STD code with your telephone number.

EQUIPMENT REVIEW

Ron Cook VK3AFW
TECHNICAL EDITOR

THE K-B MARK II NOISE BRIDGE



We have previously reviewed the K-B Noise Bridge (Nov '83) and found it to be a most useful instrument. The newest model features a higher noise output and reduced errors.

It is suggested that those readers not familiar with noise bridges should read the previous review.

The Mark II is built in the same small smart case and has the same panel layout. A variable resistance dial covering 0-100 ohms is at the left and a dial with centre 0 and XC/XL markings is to the right and in the centre, the on/off switch. The resistance dial sweeps through 270 degrees and has markings every 10 ohms. The reactance dial has four graduations each side of zero. The prototype supplied for evaluation has no scale factors but each mark was found to represent about 50 pF. The production units have 50 and 130 pF markings for both XL and XC. Thus it covers +/- 130 pF for a 180 degree sweep. The back panel has an SO239 (UHF) type socket for connection to the antenna, reactance, etc to be measured. A cable about 1 metre long fitted with a UHF type plug is provided for connection to a receiver. A standard 9 V battery plug and cable is also fitted to the rear panel to allow power to be supplied in any situation. During testing a NiCad battery was used as the current drain was measured as 35 mA on this unit.

PERFORMANCE

The bridge was tested using a 50 ohm termination of high quality. For frequencies up to 30 MHz no significant error was seen. The bridge read 50 + j0 ohms all the way. Only minor touches to the controls were necessary to maintain a deep null. At 52 MHz the bridge read 70 + j0 ohms; a 25 ohm load read 35 ohms. Thus for best accuracy above 30 MHz calibration against a standard is necessary although very good results can be expected.

The noise output was checked with a load of 40 ohms + 30 pF and both controls centred. The R-1000 receiver's attenuator was set to 20 dB. The S-meter read 9 + 10 dB or more across the range 2-30 MHz. On 146 MHz the noise level reached S9 but measurement attempts here were not successul.

The noise level is 10 dB or so higher if the Z socket is left open. Other tests on resistor-capacitor combinations were very successful. An antenna, a G5RV, was matched via an ATU using the bridge. Even on 80 metres the noise level was adequate and adjustment easy provided the receiver was tuned off the strongest signals.

HANDBOOK

The handbook is essentially the same as before. It describes the bridge and gives a number of applications such as:

Measuring components at radio frequencies
Measuring antenna impedance
Measuring the velocity factor of a transmission line
Measuring ¼ and ½ wavelengths of transmission lines
Measuring the VSWR of dummy loads
Adjusting an ATU for a match without radiating a signal

It is suggested that the bridge can be used to find resonant frequencies of circuits and antenna. I personally recommend the dip oscillator for that application as all other methods including the noise bridge leave much to be desired in that application. The measurement of velocity factor and electrical quarter wavelength might be better done with a dipper.

WAYNE KERR BRIDGE	KB MK II BRIDGE
50 Ω + 0 pF	50 Ω + 0 pF
67 Ω + 50 pF	78 Ω + 35 pF
83 Ω − 65 pF	70 Ω − 55 pF
29 Ω + 0 pF	30 Ω + 50 pF
100 Ω − 30 pF	81 Ω + 0 pF

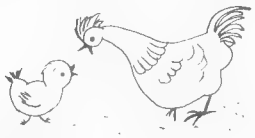
TABLE 1 Comparison of Measurements at 30 MHz using a Wayne Kerr Model B801 Bridge and the KB MKII Bridge. Accuracy improves at lower frequencies.

CONCLUSION

The useful frequency range of the bridge has been considerably extended. Very acceptable accuracy is obtainable beyond 30 MHz and with care the bridge can be used in the lower part of th VHF region. And best of all the price is still only $60.

The test unit was supplied by G Scott, 11 Balmoral Crescent, Surrey Hills, Melbourne. Enquiries should be directed to G Scott or K Brucesmith, 110 Rosemead Road, Hornsby, NSW 2077.

AR



NOTICE

All copy for inclusion in October 1984 Amateur Radio must arrive at Box 300, Caulfield South, Vic., 3162 no later than midday 24th August.

QSP

SPECIAL CALLSIGNS

Canadian amateurs have been granted permission to use special prefixes from the 20th June to 20th August 1985 to commemorate the 450th anniversary of the discovery of Canada by Jacques Cartier in 1534.

Prefixes are Newfoundland and Labrador, VA1 and VA2, Maritimes, CZ1, Yukon, CK1 and the rest of Canada VY2 to VY8. AR

NEWS FROM ITALY

As of 1 March 1984, the following changes to the amateur bands and associated power limitations available in Italy were made:

1.83-1.85MHz, all modes, 300W PEP.
10MHz-to be advised
18.068-18.186MHz, CW and phone only.
300W pep.
24.890-24.990 MHz, CW and phone only, 300W pep.
433.5-433.6MHz, all modes, 300W pep.
1,296MHz, all modes, 50W pep.

from RadCom, June 1984. AR

This advertisement is inverted at the request of the advertiser.

TAPES $5 each inc. post.

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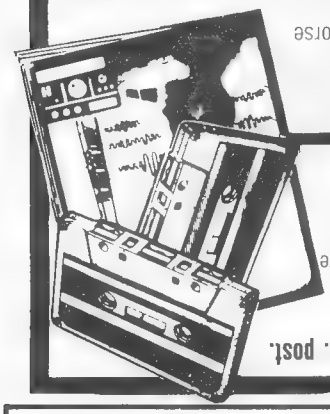

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It contains
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Please write for complete list

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Surry Hills, Melbourne,
Vict. 3127.

K. BRUCESMITH
110 Rosemead Road
Hornsby N.S.W. 2077

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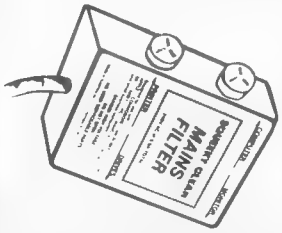
SQUEEKY CLEAN MAINS FILTER



240V AC at 6.0A TOTAL

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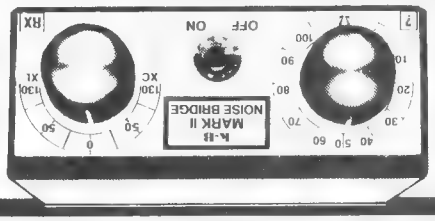

Adjust your antenna for maximum performance
Measure resonant frequency, radiation resistance and reactance. Better than an SWR meter. Operates over 100 MHz. Most useful test unit in your shack

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Ideal for Dipoles, Beams, Quads.
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BUTTERNUT ELECTRONICS CO.

Still More Usable Antenna For Your Money . . . Plus 30 Metres!

Butternut's new model HF6V* offers more active radiator on more bands than any other vertical of comparable height. DIFFERENTIAL REACTANCE TUNING ™ circuitry lets the 26' antenna work on 80/75, 40, 30, 20 and 10 metres and a loss-free linear decoupler gives full quarter wave unloaded performance on 15 metres. It can also be modified for remaining WARC bands

- ★ Completely automatic bandswitching 80 through 10 metres including 30 metres (10.1-10.15 MHz); 160 through 10 metres with optional TBR-160 unit
- ★ Retrofit capability for 18 and 24 MHz bands
- ★ No lossy traps to rob you of power. The HF6V's three resonator circuits use rugged HV ceramic capacitators and large-diameter self-supporting inductors for unmatched circuit Q and efficiency
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- ★ For ground, rooftop, tower installations — no guys required

Model HF6V (automatic bandswitching 80-10 meters) **$282**
Model TBR-160 (160 metre base resonator)
(When supplied as part of HF6V) **$66**

[illegible] plete information concerning the HF6V [illegible] products amateur and commercial, contact the [illegible]

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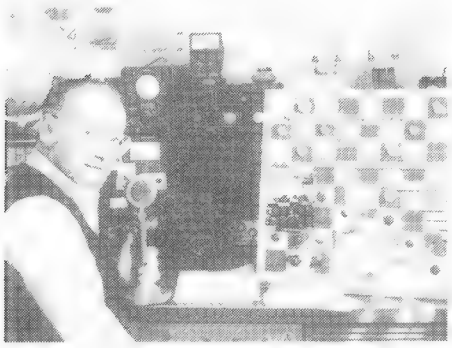
CHESS ON THE AIR

Craig Mc Millan VK3CRA
9 Eloera Street, Upwey, Vic 3158

"C 21 RK, this is VK6NCR. My move is pawn to echo four. QSL?"
So begins a game of radio-chess between two members of Chess and Amateur Radio International. CARI has been active in Australia for over two years now, and our local membership has grown to twenty members ranging from SWLs to full calls.

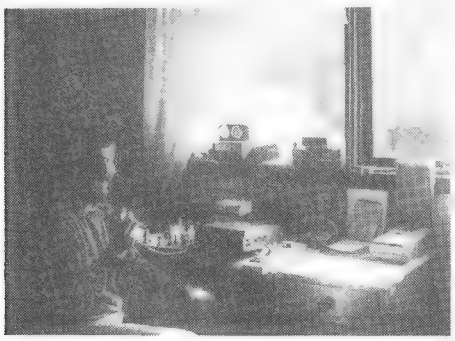
Chess on the air is not quite the same as the game you are used to playing. Firstly, each player requires his own board, and secondly, each player must "describe" his move to his opponent. The method for doing this can be learned in five minutes. Basically, you tell your opponent the piece you are moving and the square it is to finish on. The squares are described by naming the row and column.



Vince K2VJ

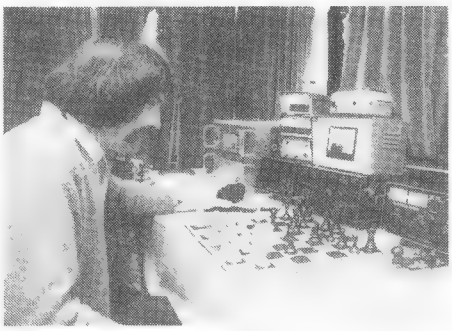
CARI is the brainchild of Vince K2VJ in New Jersey. Vince wrote letters to a chess magazine in the USA and invited anybody interested in chess on the air to write to him. The response was better than he had expected, and he was encouraged to form CARI. Vince has a great signal, and often stays awake until 2.30am on his Saturday and Sunday mornings to play on the 20m nets.

CARI now boasts over 200 members in ten countries. The standards of players vary from one new member who wanted information on how the pieces moved, to a chess master – one of the top players in the world. As one can see, all grades of Chess players are catered for, and also offered several types of game – round robin tournaments, knockout tournaments, rating games and casual games.

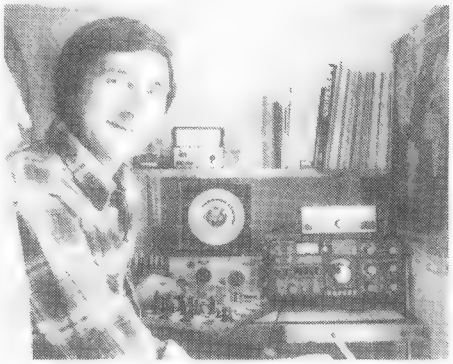


Craig VK3CRA

Tournaments are organized both here and in the USA. The first Oceania tournament was a round-robin (everybody plays – everybody else). The participants in this event were Tom NH6R, Lionel VK3NM, Kevin VK3ASM, Craig VK3CRA and Kirk ZL4PX, with Craig defeating Kirk in a tie-breaker. Since then, the Oceania chapter has run many more tournaments, including amateurs from Italy, USA, Hawaii, Nauru, New Zealand as well as three states of Australia. One recent highlight was a match between Oceania and mainland USA played on 20m on Sunday 15 April. Unfortunately Oceania lost three games to two against a more skilful American team.



Kirk ZL4PX



Kevin VK3ASM

Every CARI member is given a chess rating. The rating system is maintained by John N1BHL who is forwarded game results by CARI tournament directors – three of the Oceania players are ranked in the top ten.

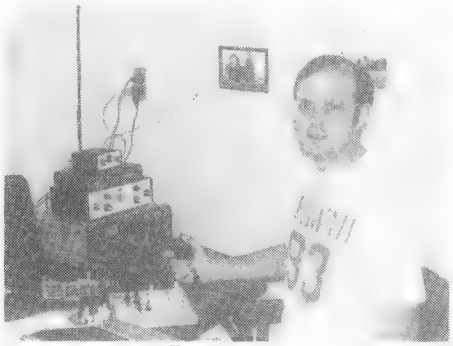
Not everybody is interested in playing in tournaments, and for those who are not, there are always plenty of friendly games to be had on the air.

CARI has been geared up to cater for all grades of amateurs. Novices can check in to 80m and 15m nets while limited licencees can check in on the 2m nets. Novices and limited are assisted in playing DX matches by overseas relays through full call amateurs.

The entertaining "CARI News" magazine is edited by Gary WA0ZSU and published every two months. A typical issue might include cartoons by a CARI member-artist, an editorial by CARI founder K2VJ, member news, CARI net and frequency information, tournaments, ratings, game scores, radiochess procedures and new member information.

It's not necessary to be a member of CARI to join in and play a few games on the air. The most popular nets are as follows –

Tuesdays	*146.550 MHz 0930 UTC (Melbourne area)*
Wednesdays	*3.567 MHz 1000 UTC*
Saturdays	*14.267 MHz 0530 UTC*
Sundays	*14.267 MHz 0530 UTC*



Tom NH6R

"Oh my Gosh. I think I'm on the wrong board!!!"

If you would like further information on CARI, join in on the air or contact:
Australia – Craig McMillan VK3CRA – 9 Eloera Street, Upwey, 3158.
New Zealand – Kirk McMillan ZL4PX – Box 24037 East Linwood, Christchurch 6.

QSP

CRASH, TINKLE

Late in 1983 there were reports of illicit CB "burners" being used to obtain petrol from filling stations at reduced rates by taking advantage of the effects of RF fields on microprocessor-controlled petrol pumps. A recent item in the New Zealand national society's magazine *Break-In* drew attention to another aspect of the problem of filling stations and RF; in this, ". . . . an amateur was driving in and across the forecourt . . . . he happened to look in his rear-vision mirror only to see the proprietor running behind him with arms outstretched and covered in white powder. The amateur had dislodged a number of flourescent tubes in the canopy over the petrol pumps with his HF antenna". (The item goes on to say, "he then decided he didn't really need petrol after all").

There is a serious side to the story. Quite apart from mobile HF verticals, many VHF and UHF colinear antennas are quite long, and there must be many mobile antennas which come to grief when the vehicle is driven into low multi-storey car parks etc. It is worth exercising caution in the vicinity of filling stations as well, since many have relatively low canopies over the pumps.
from RadCom, June 1984

AUSTRALIAN RELIABILITY TRIALS TEAMS CHAMPIONSHIPS 1984 FOUR DAY ENDURO

Paul Henning VK4ZPB
13 Homebush Street, Dalby, Qld 4405

The Dalby and District Amateur Radio Club was asked to supply radio communications for the 1984 Four Day Enduro held over the 1984 Easter Break. The aim of the exercise was (a) to provide a safety net for the event and (b) provide communications for the transmission of course control times and general information.

Having insufficient numbers in our own club we called on the assistance of other amateurs. We were fortunate enough to receive sufficient offers of assistance to make the event the enormous success it was from all points of view.

The Four Day is the premier off road motorcycle competition, with the best performers representing Australia in the world championships in Europe. The event moves from state to state in successive years.

The course consisted of a base at Caboolture showgrounds and eight field checkpoints. The base and checkpoints each had a station operational. The basic course had a given race time between each checkpoint usually between 25 minutes and one hour. The riders are expected to take the allotted time on each leg and would not be allowed through the checkpoint until his due time came up.

The bikes were started from the showgrounds at the rate of three bikes per minute. With 300 bikes racing it meant that there would be bikes spread out over two hours of track time. At stages we had three check points operational at the one time.

With each station relaying times and course information back to Caboulture base and with multiple stations operating the base operation was hectic with no time to sit and think. Our capacity as a safety net was used on many occasions. Although most accidents were minor. Unfortunately the third day saw a sweep rider badly injured when he crashed. Through radio an ambulance was on the scene before a vehicle from Caboolture had arrived.

VK4NF's check point.

The base station at Caboolture became an information centre for rider-support crews and spectators. A comment was made by an official that they had tried CB, commercial and army radio comms in the past but amateur radio proved the best, another feather in the cap of WICEN operations.

Thank you to all who gave up their valuable holiday time to operate on site or just monitor for safety reasons.

Some stations who participated were *VK4AQV VK4KJE VK4ZDV VK4AFJ VK4NF VK4BES VK4NYY VK4ATH VK4ABE VK4ZPB VK4AOE VK4AGS VK4AG VK4ANU VK4VHW VK4KBO VK4AGQ VK4BRZ VK4KIE VK4KKH VK4NVF.*

Sincere apologies to anybody not mentioned.

THE TECHNICAL SIDE OF THE FOUR DAY

The equipment used varied widely with most stations using mobile rigs in their vehicles or close to the TAE actual check point officials. The antenna used also varied from mobile whips to 5.5 metre verticals and dipoles with all the needed ATUs etc, and on HF. And two metres, mobile whips and Slim Jims. Two metre activity was on 146.550 MHz (ch 51) and on 3.564 MHz on 80 metres.

Caboolture Base.

80 metres performed perfectly for the four days with switching between vertical and horizontal antennas, giving remarkable differences at times during the day. This was, it appeared, totally independent of the polarization of the check points.

Two metres was a good general worker but many check points were situated in valleys and generally bad VHF locations. However alternate check points had VHF links meaning that the two operating stations could have simultaneous comms with the base, which worked out perfectly. AR

THE AUSTRALASIAN TELEPHONE COLLECTORS' SOCIETY

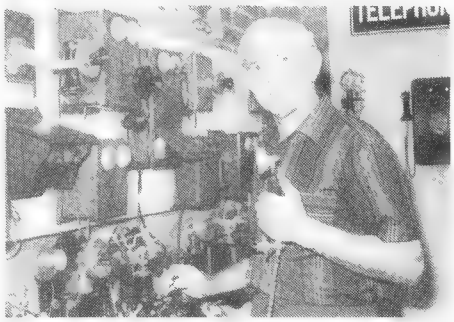
Alan Shawsmith VK4SS
35 Whynot Street, West End, Qld 4101

Among the amateur fraternity there is, of course, a goodly sprinkling of PMG/Telecom technicians, both young and OT — and, within these ranks there are sure to be some interested in collecting old telephones and associated equipment. The above Society provides an ideal common meeting ground for those who want to expand or swap their gear.

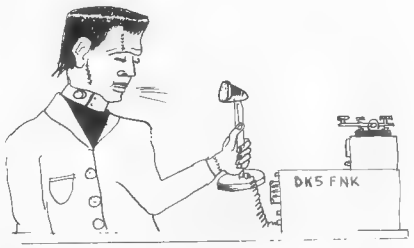
A few years ago a group in Sydney got together to discuss their mutual interest in old telephones and out of this came the formation of the Australasian Telephone Collectors' Society.

From its beginning the Society has given telephone enthusiasts the opportunity to meet other collectors. Members do not restrict themselves to telephone instruments; many are interested in transmission equipment, insulators, exchanges and other items associated with telephony.

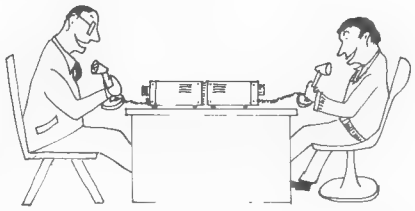
The Society *holds regular meetings, publishes and circulates an informative newsletter, maintains a collection of reference books for loan to members, facilitates buying, selling and swapping, participates in exhibitions and displays and assists individual members in any aspect of collecting.*



The photo shows the Honorary Secretary, Ric Havyatt in a small corner of his extensive museum. Like the HRSA (Historical Radio Society of Australia), the ATCS is a progressive and steadily expanding group. If interested, further information can be obtained from the Secretary. Write, enclosing a long SAE to: *Ric Havyatt, PO Box 566, Lane Cove, NSW 2066.* AR

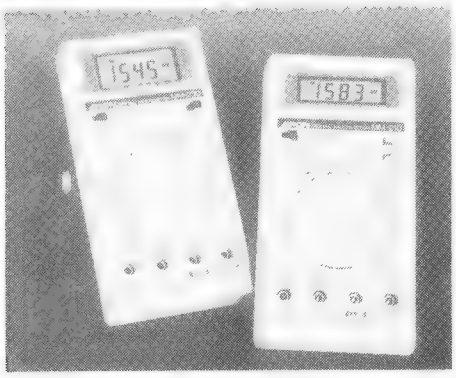


"Yes, everything in the shack is home-brew."



"I think we may have a new QRP record here, OM." — VK2EBM

AR SHOWCASE



AARON DIGITAL MULTIMETERS

The new Aaron models MM-220 and MM-230 are low cost 3½ digit hand held digital multimeters featuring automatic and manual ranging on all five ranges of AC and DC volts and on resistance.

Both models incorporate a diode test and audible continuity test. The meters measure from 200mV to 1000V full scale on DC volts and from 200mV to 750V on AC volts. The resistance ranges are from 200 ohm to 20 Mohm full scale. Both AC and DC current ranges are from 200 uA to 10A full scale. The basic DC accuracy for the MM-230 is 0.25% and for the MM-220 it is 0.5%.

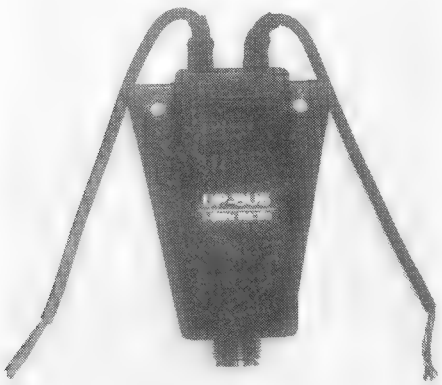
A single eighty pin LSI chip provides reliability and repeatability.

The model MM-210 is also autoranging but it differs from the MM-220 and MM-230 in that the manual ranging is done by means of a pushbutton switch. When this switch is pressed the instrument will cycle through all ranges and will lock on the range when released. This model, priced at only $59.00 plus tax, handles from 200mV to 1000V on DC and from 2V to 750V on AC full scale. All other ranges are identical to those on the MM-220 and MM-230. The basic accuracy for the MM-210 is 0.75%.

All models are fully overload protected (except the 10A range) and include transient protection to 6 kV. On the volt ranges the maximum input is 1100V (DC+peak AC). On resistance a maximum of 250V can be applied.

Two type AA 1.5V batteries are used to power the instrument. They last for 500 hours typical. Safety test leads with shrouds and finger guards are standard.

For more information contact Neotronics Pty Ltd, PO Box 289, Newport NSW 2106.



NEW BALUN

GFS Electronic Imports have just recently released a new high power balun which is manufactured in Japan by Diamond Antenna Company.

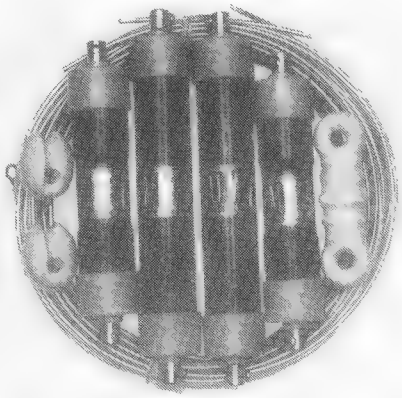
The balun, known as the DP-BU5 is a 1:1 type and covers a frequency range 2-40 MHz at an impedance of 50 ohms. It is designed to handle 1.5 kilowatts PEP over its entire operating range.

The DP-BU5 is housed in a high-impact resistant plastic moulding which is designed to be either mounted on the boom of an HF beam or used as the centre insulator of a dipole. Connections to the antenna are made through two flying leads while a SO-239 socket is mounted on the bottom of the balun for coupling to the coax feeder cable.

Price of the DP-BU5 is $35 plus $5 P&P. GFS Electronic Imports also stock a range of other antenna accessories including the ATN Baluns, Coaxial Cable, Aluminium Jointing compound, Porcelain Egg insulators, ATN Yagi insulators as well as towers.

For further information contact GFS Electronic Imports directly at 17 McKeon Road, Mitcham, 3132, Victoria, or write to PO Box 97, Mitcham. Phone (03) 873 3777.

AR



TRAPPED DIPOLE

GFS Electronic Imports have available a trapped dipole antenna which is designed to cover the 3.5, 7 and 14 MHz amateur bands.

Manufactured by UM Products of Japan and known as the A-248D it is supplied complete with centre and end porcelain insulators, traps and heavy gauge insulated copper wire.

Because of its convenient length of approximately eighteen metres most users would find the A-248D easy to accommodate in their backyards. A standard 80 metre dipole of forty metres long can be quite difficult to locate on a suburban block.

The A-248D assembles quite easily and a 1:1 VSWR is obtainable on all bands. Price of this compact antenna is $100 plus $8 P&P.

For further information contact the Australian distributors, GFS Electronic Imports, 17 McKeon Road, Mitcham, 3132. (PO Box 97, Mitcham) Victoria, Phone (03) 873 3777.

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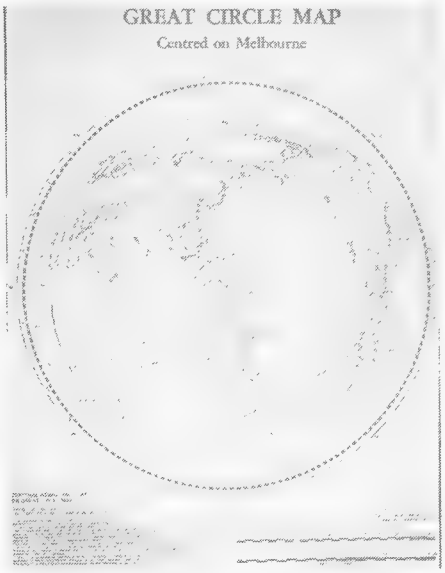

GREAT CIRCLE MAP

Due to continued demand GFS Electronic Imports have recently had reprinted their previously popular Great Circle Map or Zenithal Azimuthal Chart.

The Great Circle Map gives the true direction and distance to every place in the world from Melbourne and will enable its user to easily ascertain the distance and direction of radio stations worked or heard. It also has the benefit of providing the shortest or Great Circle distance to these stations from Melbourne. With reduced accuracy the map may be also used from other locations in the central and eastern half of Australia.

At 32 x 42 cms GFS's Great Circle Map is designed to fit conveniently under the glass top of an operator's desk or mount on a wall as a poster.

Price of the Map is $1.80 plus $2 P&P and is available from GFS Electronic Imports, 17 McKeon Road, Mitcham, (PO Box 97 Mitcham) Victoria, 3132. Phone: (03) 8733777.

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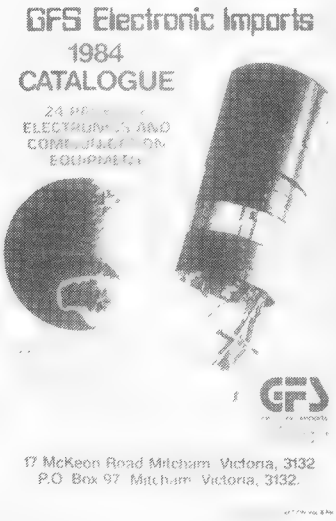


GFS ELECTRONIC IMPORTS 1984 — CATALOGUE

Now available this 1984 colour catalogue contains 24 pages of communications and electronic equipment.

Fully illustrated and containing complete specifications on all products this catalogue makes a useful reference for those with any interest in the area of communications.

It includes a range of programmable scanning receivers and more particularly GFS's new 160 memory channel pocket scanner, the Microcomm SX-150. For those who have an interest in RTTY modems as well as a new Baudot to ASCII Computer/VDU interface, the JIL CPU-100.

Military, Marine and Commercial Communications receivers from Vigilant, the Standard range of VHF/UHF amateur transceivers, Marine VHF equipment, Fire Brigade monitor receivers and satellite TVRO equipment all feature in this new catalogue.

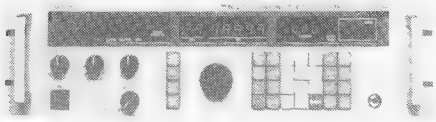
Additionally MFJ Enterprises' antenna matchers, video enhancers, active antennas, and keyers etc are all shown.

GFS Electronic Imports catalogue lists over 60 different antenna types from HF through to microwave. Antenna rotators, towers, special low loss coaxial cable, and coaxial connectors are all there.

If you would like a copy contact GFS Electronic Imports, 17 McKeon Road, Mitcham, 3132 or write to PO Box 97 Mitcham, Victoria. Phone (03) 8733777.
Please include $0.75 for postage.

AR

Mention you saw it in AR when you buy from our ADVERTISERS.



MICROPROCESSOR COMMUNICATION RECEIVERS

Vigilant Communications Ltd of the UK recently released a new range of Microprocessor controlled Professional/Military/Marine Communications Receivers through their Australian agents GFS Electronic Imports of Mitcham, Victoria.

This new Micron range of receivers is designed to meet and exceed the very stringent 1983 Conference of European Post and Telegraphs specification for HF communication receivers which was promulgated by British Government Spec MPT-1201 February, 1983.

Two versions are available, the Type SR-530 marine communications receiver for type approved marine use providing USB/CW/AM/Telex. The second version, type SR-532 is a professional communications receiver designed for high performance static or transportable use providing LSB/USB/CW/AM and FSK with a teleprinter drive unit. The two versions are identical in all other respects.

Some of the features incorporated include a front end designed using a highly effective preselector which provides optimum matching to different antenna input impedances and will withstand a signal of 30 volts RMS for fifteen minutes without damage.

Both keypad or dual speed wheel tuning are provided for frequency coverage of 50 kHz to 29.999 MHz. The Micon range also features a 200 channel Non-Volatile memory which maintains frequency, mode and filter bandwidth information for each channel. Automatic scanning of any section or the entire 200 memory channels is provided along with dual time which may be varied from one to nine seconds. Full serial remote control is available as an option.

Available as either a rack mounted version or housed in an attractive enclosure for bench top use.

Both models can be supplied in various configurations at the user's request. For example they can be fitted with a limited frequency coverage, or in a single channel version.

For further information on this unique range of professional receivers contact the Sole Australian distributors, GFS Electronic Imports, 17 McKeon Road, (PO Box 97) Mitcham, 3132 Victoria. Phone (03) 873 3777.

300 WATT VERSATILE ANTENNA TUNER FOR CO-AX, SINGLE WIRE OR BALANCED HAS BUILT IN DUMMY LOAD

This versatile Antenna Tuning Unit, the Model MFJ-949B, has been designed to incorporate many useful features. It is available in Australia through GFS Electronic Imports, of Mitcham, Victoria.

Built into a neat compact fully shielded enclosure (240 mm W x 60 mm H x 130 mm D) the MFJ-949B features a 200 watt dummy

load, a front panel mounted six position coaxial switch, for switching of two coax fed antennas, either direct or through the tuner, a balanced line or single wire fed antenna and the dummy load.

Because the MFJ-949B uses an inductor which is tapped every second turn it is capable of matching continuously from 1.8 to 30 MHz over a very wide impedance range. Its built in power/SWR meter gives accurate results over the two power ranges, 0-300 and 0-30 watts. Minimum power requirement for SWR reading is only 5 watts.

Also incorporated in the MFJ-949B is a 4:1 balun for use on balanced line fed antennas such as folded dipoles etc.

Price of the MFJ-949B is $284 plus $12 P&P. For further information contact the Australian distributors: GFS Electronic Imports, 17 McKeon Road (PO Box 97) Mitcham, Victoria 3132. Phone: (03) 873 3777).

FAMILY OF AMATEURS

The Eves family of Queensland are very proud of their five amateur members. From the left are Lori VK4FFQ of Cairns, Terry VK4ATY, Malanda, Richard VK4RR and Paula VK4KIZ both of Cairns and George VK4NGE of Seaforth.

George was the most recent member of the family to get bitten by the bug at the age of seventy five years.

Contributed by George Eves VK4NGE.

HELP PREVENT PIRATES

Keep bands for licensed amateurs.

DO NOT sell transmitting equipment to unlicensed operators.

NEW in Australia

Super Stick II

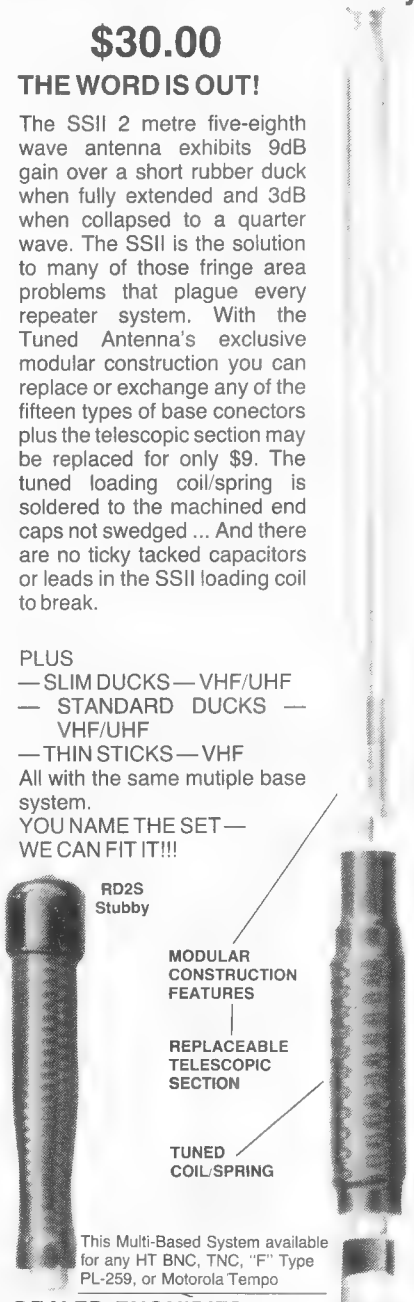
+ 9db 5/8 wave Telescopic Plus a 2 Metre Duck for only

$30.00

THE WORD IS OUT!

The SSII 2 metre five-eighth wave antenna exhibits 9dB gain over a short rubber duck when fully extended and 3dB when collapsed to a quarter wave. The SSII is the solution to many of those fringe area problems that plague every repeater system. With the Tuned Antenna's exclusive modular construction you can replace or exchange any of the fifteen types of base conectors plus the telescopic section may be replaced for only $9. The tuned loading coil/spring is soldered to the machined end caps not swedged ... And there are no ticky tacked capacitors or leads in the SSII loading coil to break.

PLUS
— SLIM DUCKS — VHF/UHF
— STANDARD DUCKS — VHF/UHF
— THIN STICKS — VHF
All with the same mutiple base system.
YOU NAME THE SET — WE CAN FIT IT!!!



This Multi-Based System available for any HT BNC, TNC, "F" Type PL-259, or Motorola Tempo

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VK5: GPO Box 1234, Adelaide, SA 5001 — Thebarton Road, West Thebarton, SA 5031 Phone (08) 352 3428.
VK6: GPO Box 10, West Perth, WA 6005.
VK7: PO Box 1010, Launceston, Tas. 7250.
VK8: Same as VK5

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TWO TYPES AVAILABLE.
TYPE 1. 50W/7.5W. N CONNECTORS.
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EACH TYPE HAS TWO FORWARD AND TWO REFLECTED POWER RANGES, PLUS A DIRECT READING VSWR SCALE, INSTRUCTIONS AND CHART.

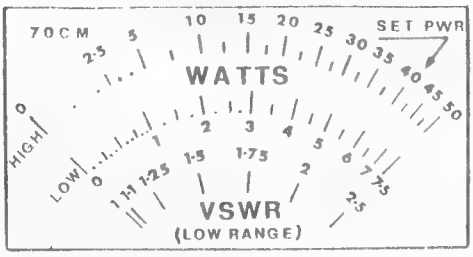
The meters will work outside the specified band. They read approximately 5% high at 450MHz and 8% high at 477 MHz.

PRICES.
TYPE 1. $94 + 20% S/T = $112.80.
TYPE 2. $90 + 20% S/T = $108.00.
Post and packing $5 extra.

WE ALSO MAKE.
1269, 1296 & 1700MHz Long Loop Yagi's 1.2 & 4 Bay with splitters. Soldered copper. (From $65 single).

3cm WG Assembly with 3dB coupler, 22dB horn, Gunn Oscillator & IN23WE Mixer (see AR Nov.83) — $125. All parts available separately.

Educational Microwave Equipment.



Actual size 60 x 53mm)

WE SUPPLY (NEW EQUIPMENT)
Waveguide, Flanges, Gunn and Detector Diodes. Well priced. Good range in stock.

PTFE PC Board. ER 2.5 double sided 1 oz. copper. .0625" 14c/sq. cm.

Various types of connectors for semi-rigid coaxial cable.

SAE for price list.

SPECIFICATIONS.
FREQ. RANGE .... 430–442 MHz.
CALIBRATION FREQ. ... 436 MHz.
IMPEDANCE ..... 50 Ohms.
DIRECTIVITY .... 30 dB min.
INSERTION LOSS . 0.3 dB max.
VSWR ..... 1.08 max.

ACCURACY ..... ± 5% at FSD on all switched ranges. Down scale accuracy is superior to competitive instruments.
REFERENCE LEVEL for VSWR scale is 41.2W, otherwise the chart supplied is used to determine the VSWR.

SPECIALS.
Used, working, Gunn Diodes for experimenting & getting into microwaves – $1 per mW. Detector Diodes, used $1 each. Both tested before delivery.

0.14111± Semi-rigid coaxial cable. Used, but in good condition. Reduced to $3/m. While stocks last.

0.141"± Semi-rigid coaxial cable. Used, but in good condition. Reduced to $3/m. While stocks last.

0.141"± Semi-rigid coaxial cable. Used, but in good condition. Reduced to $3/m. While stocks last.

Sales tax @ 20% included on applicable items.
Post and packing extra.
73 de VK5ZO.

MICROWAVE DEVELOPMENTS.
PO BOX 274, MOUNT BARKER. SOUTH AUSTRALIA. 5251. Ph. (08) 391 1092

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HOW'S DX

Ken McLachlan, VK3AH
Box 39, Mooroolbark, Vic 3138

This is the end of the third year of writing these notes and over the period I have quite enjoyed the challenge, which has been made considerably easier by you, the reader's constructive criticism and the numerous members who have volunteered information over this period.

It is hard to cater for all tastes, particularly when one is unaware of the type of information that you require. I am aware that in many circles this column has come under criticism, mainly because there is not enough advance information publicised on DXpeditions and single operations from many wanted countries.

As with all magazines, there is a "leadtime" to publication, with deadlines to meet, and at that time the most up-to-date news of interest that is available in written form is committed to the typesetter. By "Murphy's Law" something that would be of interest does arrive in the mail box the day after copy has gone to the typesetters, but alas, the next magazine is the place for that, usually by then it is a non event as it has become history.

I would like to sincerely thank all the subscribers both in VK and from overseas for their assistance in the past and trust that they may be able to see their way clear to continue in the future with further information that can be shared with DX orientated amateurs throughout Australia and the world. Credit is given for all information and anonymity is given to the genuine writer if it is his or her wish.

FUN, FRUSTRATION AND FATIGUE

This is the heading on an article by journalist Roy Neal K6DUE, in March 73 Magazine. Well that sums DX hunting up really but Roy was summarising Dr Owen Garriot W6LFL's amateur operation from space.

It is an excellent article that is well worth reading, if you can obtain a copy from your local Divisional Library, or from a friend who subscribes.

Roy mentions that the following VK's appear in the preliminary log, VK1BX, DF, ORR, RR, ZAH, ZIF, ZQR, VK2KPG and VK2PMN (must be a "typo" as he would have been outside the Novice bands allocation). Congratulations to all that made a valid contact and keeping VK on the map in the space age.

FROM KERMADEC TO CHATHAM

Ron ZL1AMO has been visiting ZL7 land, the Chatham group, and by overseas reports has been quite active appearing in many logs as ZL7AMO using the 7, 14 and 21 MHz bands. Ron has been invited to the USA, and should be in that area as you read these notes. The trip is being partly written off by the Carolina DX Association. Invites and participation by other clubs were being sought.

PATIENCE

The Chilean authorities have made it quite plain by spelling it out in words of one syllable — Quote *"There will be no San Felix operation before 1988, and only then, if granted, it will go to an all Chilean National Expedition"*. The fiasco that was reported previously in this column, unfortunately did nothing to improve the chances of an earlier expedition.

LICENCE NOT ISSUED

The DL group made it to 3V8 and the PTT was willing to issue a licence but it was blocked by the "security office". It is a case where the majority say yes and the minority say no or is it a polite way of saying no amateur activation in Tunisia thank you? The DL group report that it will be extremely difficult to get a legitimate licence in the future and 3V8 will climb up the much wanted list.

MALAWI

Les 7Q7LW, the only active amateur permitted from Malawi, will be QRT for a few months, due to taking leave from his position with the Police Commissioner's Office in that country. He will be spending his leave with his XYL Helen in the United Kingdom.

UPDATE ON WIA MEMBERS VISIT TO JY AND OE

Mary Ann WA3HUP/JY9AA and Ruthanna WB3CQN/VK6AQN/JY8CQ had the red carpet rolled out for them during their recent visit to Amman, Jordan that was made possible by King Hussein JY1, whom Mary Ann is QSL Manager for. It was Ruthanna's first visit and over five years since Mary Ann had visited the country.

Both ladies met many of the local operators from the radio club and were ably looked after by Zedan JY3ZH, the controller of the Arabian Knights Net. They were given a key to the club, where they did most of their operating and were entertained by many of the club members including lunch with the Chairman of the Royal Jordanian Amateur Radio Society, Prince Raad JY2RZ.

Next stop for the ladies was Austria, where they did a lot of sight seeing and some operating, catching up with old friends before departing for home after an exhilirating holiday.

Mary Ann has now added JY2RZ and JY5ZM to her vast QSL Manager's duties.

Mary Ann WA3HUP in the foreground with Ruthanna WB3CQN/VK6AQN competing in a US Field Day event.

ACTIVITY FROM GK0JFK

This special prefix has been issued to the Chiltern DX Club for the 4th and 5th of August. It is being used from

King Hussein JY1 in his magnificently appointed "shack".

the John F Kennedy Memorial at Runnymeade on the twentieth anniversary of the memorial site being given to the people of the United States of America. Operation will be on all bands using CW and SSB. A special memorative QSL will be available. No QSL route has been designated as yet.

CRETE ACTIVITY

Lynn KA0CYR and her OM Hal W0PU, are on a business assignment to SV9 for three years. At present they are both active around the bands using Lynn's call /SV9. Direct QSL's to WB4TDB or via the W0 bureau.

SWLers UNFAIRLY TREATED?

The UBA (Unie van de Belgische Amateur-Zenders) SWL committee has written to many amateur journal correspondents highlighting the fact that many QSL managers refuse to reply to SWL reports even when these are accompanied by IRC's or currency. They have in my opinion, singled out well known QSL Manager, Bill W7PHO, and unmercifully taken him to task over the matter. I would like to hear Bill's side of the story.

ACTIVITY ON 24 MHz

Graham VK6RO took time out to advise us that he has been able to work some new ones on this band. He worked VU2, OE5 and T77C recently.

More reports would be appreciated from the operators of this band. Even though the numbers are small that have taken advantage of the WARC allocation, the numbers are steadily growing and particularly 24 MHz could become as popular as 28 MHz when the solar activity starts to increase.

CANADIAN PREFIXES

Have you heard the unusual prefixes emanating from VE over the last few weeks. Prefixes CZ1=VE1, VY2-8=VE2-8 and VA1-2=VO1-2. These prefixes are optional and are to commemorate the 450th anniversary of Jacques Cartier's landing. They will be effective until the 20th August.

POSTAL REGULATIONS

Ever tried to post a single QSL card in an open envelope classing it as a postcard and been politely told by the postal officer that it was not a post card? By listening around the bands many have, and have not been too complimentary about our postal service or the staff they employ.

Joe VK4AIX, decided that it was an easy task to get a decision on whether it was legitimate or not, but apparently it got shelved from one section to the other of Australia Post. Eventually an answer did arrive, after much prompting, from the Secretary of Australia Post. His Reference, 50/1/1105, dated 19 March 1984 and extracts are quoted below, from this communication, for your interest.

"In the overseas post, if QSL cards are sent singly by air mail they are classified as postcards provided they bear, on the address side, the heading "Postcard" and are sent unenclosed. If sent in multiplies by air mail, they can be classified as letters, small packets or parcels.

"If sent singly by surface mail, they are classified as letters and postcards. If sent in multiplies by surface mail, they are classified as small packets or parcels.

"References to QSL cards in the Postal Guide are to be found in sub-paragraphs 10.56.1, 10.97.2 and 10.121.1. A copy of the relevant extracts is attached.

"The Australian Postal Services Act, Postal Regulations and Postal By-laws do not generally apply to Norfolk Island (an exception is the compensation provisions). However, the services provided by Norfolk Island largely conform to those of Australia Post".

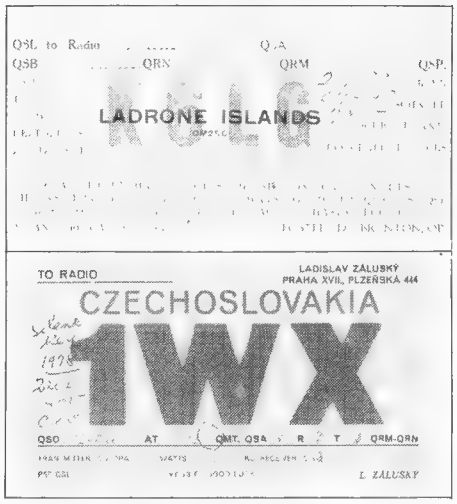
The regulations referred to:

10.56	*Not transmissible as printed papers. QSL CARDS*
10.97	*Permissible annotations and enclosures. The following are acceptable enclosures in small packets. QSL CARDS*
10.121	*Parcel Post. QSL CARDS, are not considered to be communications having the nature of current and personal correspondence.*

Thank you Joe, and now you can quote to the postal clerk the regulations if you want to return cards by the cheapest postal method — *Postcard Rate.*

CARDS OF YESTERYEAR

Two more cards of yesteryear are reproduced for those interested in what calls were being used fifty years ago. Both cards are in the 1933 era.



The cards of K6LG and 1WX

PROFILE DJ1NY

Well known to many VK operators for his consistent signal and lots of patience whilst operating in the Australian Novice segment of the bands is Rudy DJ1NY.

Jim VK3YJ and his XYL Anne had the pleasure of visiting Rudy whilst in Europe. Rudy uses a 2 element quad at about nine metres above ground and uses different transceivers plus linears for each band.

Jim mentions that Rudy also sports a good drop of wine in his cellar, which was quite palatable. One thing that Jim doesn't mention is how long he was at Rudy's QTH!!

Rudy DJ1NY

WILLIS ISLAND ACTIVE

Andy VK9ZA, took over from Graham VK9ZW at the end of June. This is Andy's third trip to the Meteorological outpost and he went well prepared to work the world. He will also be operational on six metres.

QSL arrangement are with Jill VK6YL, either direct or via the bureau.

ANOTHER BY STATION

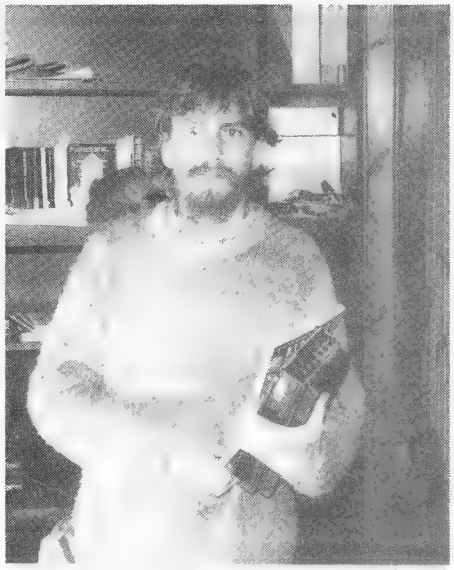
Another BY station has surfaced, the call of BY1QH has been worked in VK and the signals emanate from a university in Peking. Tom VE7BC mentioned in May last year that this station would appear within the year and it was on cue. QSL to PO Box 2654, Beijing, Peoples Republic of China.

HEADACHES FOR A QSL MANAGER

The logs of KC4AAA have eventually surfaced, or rather a copy of them has been obtained, with about 15000 QSO's noted in them. Gary KA9AUB is now faced with the massive sort out and at present is processing about 100 per day.

If Gary keeps to his present rate, he will complete the chores sometimes in 1985. Gary says that his task has been further complicated by duplicate and triplicate requests and the age old story of no revenue enclosed in the requests for return postage. The cost of QSLing from Antarctic stations is not borne by the US government as is commonly thought.

Have patience, if you have sent a card with IRC's, Gary will eventually get around to yours. Gary has made it quite clear that such a task, when you get the logs once a year after a tour of duty, is too big for one person to handle and he will not be acting as QSL Manager for this group in the future.



Andy VK9ZA, complete with Call Book and six metre linear amplifier prior to departing for the island.
Photo by Ken McLachlan VK3AH.

AMATEUR ACTIVITY IN INDIA

On readings the magazine of the Indian National Institute of Amateur Radio (NIAR), one realises that the hobby is gaining importance in that country, as there are now approximately 2500 amateurs licenced.

One of the amateurs Rajiv VU2RG, is a prominent Parliamentarian, being the son of the Prime Minister Indira Gandhi and appears to be pushing the hobby to the utmost. He was one of the members that recently got permission for VU amateurs to import a certain value of equipment per year.

Both Rajiv VU2RG and his charming XYL Sonia VU2SON are very active on the bands encouraging other amateurs to participate in working the available DX.

Whilst in Indian territory, a shambles developed out of the two VU7WCY expeditions that were intended to accent the WCY Year. Problems regarding QSLing and the legitimacy of some of the cards that have appeared will be apparently cleared up in the near future and it will be interesting to see how the ARRL DX desk handle the problem.

It is trusted that the proposed trip to the Andaman Island group will not end up with similar problems.

ACCEPTABLE?

The recent 36 hour operation by DJ5CQ from Mount Athos, may not count. The operator apparently got permission from the Greek authorities but unfortunately not from the monks that govern the theocracy of the area. Without their authorisation, the operation is invalid. Another problem for Don Search on the ARRL DX desk.

QSL HINT

Ron ZK1XL, in writing to QRZ DX, recommends that when sending SAE's to hot and humid areas, put a piece of waxed paper between the flap and envelope to prevent sticking. Out of 2500 cards received for processing, 2495 envelopes were sealed tight, causing quite a problem.

ITALIAN ISLANDS

With the high activity from the islands surrounding Italy, the following is produced from QRZ DX as a guide to who is where and for those interested in the awards that are based on the number of islands contacted.

PREFIX	ARCHIPELAGO	LOCATION
IA1	Ligurian	44°N — 10°E
IA5	Tuscan	42.5°N — 10°E
IB0	Ponziane	41.5°N — 14°E
IC8	Napoli	40.5°N — 14°E
ID9	Eolie	38°N — 12°E
IE9	Ustica Is	38.5°N — 12°E
IF9	Egadi	38°N — 12°E
IG9	Pelagie	35.5°N — 12.5°E
IH9	Pantelleria	37°N — 11.5°E)
IJ7	Cheradi	40°N — 18°E
IL7	Tremati	42°N — 15.5°E
IM0	Maddelena	40°N — 9.5°E
IS0	Sardinia	40°N — 9°E
IT9	Sicily	37.5°N — 14°E

Anyone interested, may obtain further information by writing to the Award Manager, ARI, via Scarletti 31, 20124 Milano, Italy with SAE and IRCs for return postage.

BITS AND PIECES

F0IPY will be operational until the end of September **** TS8WCY cards are no longer valid for DXCC **** Desecheo KP5 looks good for this month **** CE0EVG will be active from Juan Fernandez until the end of the year **** Any correspondence to a Turkey station should not have any connection with the hobby, shown on the envelope **** For confirmation of SO5DCA and SO5PBA, operating out of Poland, QSL to LA4DCA Nebbejordet 34, 1266 Oslo 12, Norway **** Fire Prevention Week was on again in Brazil, ZV2ADV (SSB) and ZV2ACZ (CW) were quite active. QSL to PT2ADV **** YB stations starting with AR in the suffix are non nationals **** "Bull" 9U5JB does not operate CW, but he does have visitors from time to time and they are allowed to operate in the CW mode **** BV not allowed to contact BY or USSR stations **** DF7ET is in Libya and trying to obtain a genuine 5A call **** K6EDV's XYL is no longer handling cards for AH8A as she cannot obtain the logs.

DXCC UPDATE

According to an ARRL release, "the ARRL DX Advisory Committee (DXAC) have overwhelmingly voted to reject the addition of the Vienna International Centre (4U1VIC) to the DXCC countries list. . . ."

On a separate matter, the DXAC "has recommended to the ARRL Awards Committee that the Baker, Howland and American Phoenix Islands listing KH1 be deleted and the addition of a new DXCC country, Baker and Howland Islands, by reason of a significant change in land areas. The ARRL Awards Committee will act on this matter in the near future. . . ."

With a new country in the offering, one does not need too many guesses who will be the first to activate it!

UPDATE FROM TUNISIA

Late news is that 3V8AL and 3V8AM are active and they have sent both licences to the ARRL for validation. It is one of those wait and see situations or work them first and worry later.

QSL INFO

3D2FR-*NE4S*, 3D6AL-*3D6AT*, 3X4EX-*N4CID*, 4U9ITU-*W1RR*, 5Z4DR-*YU3TU*, 5Z4DU-*N4IPT*, 6Y5A-*6Y5HN*, 8P6CC-*G3JRK*, 9Q5MA-*K1VSK*, 9U5JM-*F3LQ*, 9V1WC-*DF2GP*, A22CA-*AK1E*, A35JL-*K9AUB*, A92DQ-*K2IJL*, AP2ZA-*W6NLG*, C30BBA-*F6ARI*, C31BD-*F9JS*, C53AL-*KA2CDE*, C6ADR-*KC8ON*, CE0FCM-*WB6WOD*, EH3ITU-*EA3AOC*, FB8WJ-*F8RV*, FK0AE-*F6EWK*, FM0FJD-*W2GHK*, FM7WD-*W3HNK*, FV6PAX-*F8BO*, GB0WPX-*G4AIR*, H44SA-*AD1S*, H44SH-*AD1S*, HH2WL-*KM7Z*, HV2VO-*I0GPY*, J28DP-*F2JA*, J28DX-*F1CFD*, J37AH-*W2GHK*, J40AA-*N2OO*, J73D-*K2OB*, JD1BBG-*JA7AGO*, JD1YAA-*JA1WU*, JT0DJT-*I8YGZ*, JX5DW-*LA9PCA*, JY2RZ-*WA3HUP*, JY5ZM-*WA3HUP*, JY8AA-*WA3HUP*, JY9CQ-*WB3CQN*, JY9TS-*WA3HUP*, LF7R-*LA1HCA*, LG5LG-*LA2ZN*, OD5AO-*F0DDA*, OD5LX-*SM0DJZ*, ON4UBA/HB0-*ON7JF*, OY7A-*LA9PCA*, OY9R-*K2IJL*, R0K-*UA0KCL*, R1Z-*UK1ZAA*, SV5RW-*YU3GL*, SV7JJ-*W3HNK*, TE5DX-*TI2CF*, TG9NX-*N4FKZ*, V85GA-*VS5GA*, V85MS-*N2OO*, VP2EC-*N5AU*, VQ9GE-*WB7AWO*, VQ9VO-*KA6V*, VQ9WT-*VQ9CI*, VK9ZA-*VK6YL*, XX9YD-*K8PYD*, YN1YG-*VE3DJO*, ZD8KM-*G3IFB*, ZD9CC-*ZS2DK*, ZL7AMO-*ZL1AMO*, ZP5JCY-*LU8DPM*, ZS3BI-*DF2AL*.

NOTE NEW ADDRESS

Dave Wilson N4DW, who is the QSL Manager for ZP5XDW and OA4DW, has changed his address to 11434 Rex Baxter, El Paso, Texas 79936 USA effective immediately.

QTH'S

5B4JR	PO Box 392, Paphos, Cyprus.
5H3VB	PO Box 38, Muzuma, Tanzania.
5U7LD	PO Box 2121, I-39100, Bolzano, Italy.
7X2FK	PO Box 105, Bouibt, Algeria.
9J2CV	PO Box 70992, Ndola, Zambia.
A4XJZ	PO Box 981, Muscat, Oman.
A4XKD	PO Box 981, Muscat, Oman.
A71BJ	PO Box 180, Harrow, Middlesex, England.
A71BK	PO Box 1556, Doha, Qatar.
BY1PK	PO Box 6, Beijing, Peoples Republic of China.
BY1QH	PO Box 2654, Beijing, Peoples Republic of China.
BY8AA	PO Box 607, Chendu, Peoples Republic of China.
C53ES	PO Box 553, Banjul, The Gambia.
EL2AC	PO Box 58, Monrovia, Liberia.
EL2AM	PO Box 1101, Monrovia, Liberia
FO8JR	Albert Durou, Residence Manava, District of Paea, Tahiti, French Polynesia.
HK0HBT	PO Box 396 San Andres Island.
HP1XJN	PO Box 2883, APO Miami, Florida. 24002.
HS1MG	PO Box 2199, Bangkok, 10501, Thailand.
J28EB	PO Box 2417, Djibouti.
J6LKG	PO Box 99, Castries, St Lucia.
OD5AS	PO Box 121, Tripoli, Lebanon.
OD5YY	PO Box 121, Tripoli, Lebanon.
PT2ADV	PO Box 04-146, Brasilia DF, 70312, Brazil.
S79DF	PO Box 174, Mahe', Seychelles.
S79SM	PO Box 84, Mahe', Seychelles.
TA1MB	PO Box 1167, Istanbul, Turkey.*
V85GA	PO Box 1200, BSB, Brunei.
VP9MLE	PO Box 275, Hamilton, Bermuda.
VP9CS	PO Box 7, Naval Air Facilty, Diego Garcia, FPO San Francisco, CA 96685 USA
ZB2J	PO Box 394, Gibraltar.
ZF1LA	PO Box 1215, Grand Cayman.

** Denotes no reference to the hobby on the envelopes.*

THANKS

Thanks are extended to such magazines as OZ, World Radio, RadCom, 73, QST, cqDX, Veron, Indian Amateur Radio Newsreel and weekly, bi-weekly and monthly newsletters including DX NEWS, QRZ DX, LONG SKIP, RSGB NEWS BULLETIN, ARRL NEWSLETTER. KH6BZF REPORTS and JAN and JAY's QSL MANAGER LIST. These publications have provided the writer with invaluable information. Amongst Australian amateurs who have contributed are VK2KS, PS, EBX, 3BY, FR, YJ, YL, 4AIX, 6FS, NE, RO, 9ZA, 9ZW and L30042. Overseas amateurs that have assisted include G3NBC, I8SAT, JH1KRC, ZL1AMM and ZL1AMN. Many thanks to all and lots of good DX.

CW SWLing with Eric L30042

28MHz
JO1NZT, JA3OSV, RW9SZZ, VK4RTL, VK6RWA, VK6RTW, NM5M, N6PE, YJ0AKG.

21MHz
KA3DWU DU2, FR7BX, HL0CBD, I0UWG, KH6IM, KL7E, T2ITA, UA0FE, YC2BBZ, ZS6BAH.

14MHz
DU7XX, EA7DBH, FK8EY, FO8KP, HL9XX, AL7BL, TR8JL, UA2FEW, UA0KCP, UZ0LWC, UR1RWX, VK8PH, Y51WE, YV1BVJ, ZL7AMO

10MHz
DL8KO, F6AAX, FO8JR, G2BY, F6IAW MM, JA6HW, PA3BXM, **VE1ZZ, VE7VC, WIFZY**, W3BUR, K4RF, W5JDZ, NY6V, **WA7RKJ, W8UML**, KY9L, ZL7PO

7MHz
CM2HR, DJ5BR, F6GKB/MM, G3LPS, F2MA, GI3OQR, **HA9RE, HL5OC, KJ9W/KH2**, KX6DS, LXIPD, LZ2PG, NP4P, **OK3CEM, ON7ME**, P29PR, SM5EDX, T30AT, UA6BBI, **UL7ECH, Y39XO, YV5ANT**, ZL7AMO, ZL7TZ, 4N7W, 5WIEJ

1.8MHz
VK5AFA, VK5KL

INTERESTING QSLs RECEIVED BY L30042

EA8IR, HL9RC, J28CI, JY9BD, LX1BJ, KC6SX, P29KY, **PY6ABZ, OA4CYK, OH0W, UI8OAA**, VP2MFL, YN1BO, YT0R, **ZL1AMO/C, ZL9WCY, ZS6BUX, 4X4WF**, 5H3BH, ZK1XL and **10MHz DJ2CK, EA4AXW, EA8AFB, F6DQM**, G3TJP, HB9BXX, **OZ2RH, VE3LSK, VE6HH, VE7IQ, W4DR**, W5AL, W6CYX, **W8AH, 5Z4CS.**

SSB WORKED ON THE EAST COAST

3D2RH, 3V8PS, 3X4EX, 4U1ITU, 5H3SB, 5N3RTF, 5U7LD, **7X2BK, 9H1EU, 9H1GY, 9N1MM, 9X5MB, CN8BW**, CN8EJ, **CP1OX, CT3BM, EA6BH, EA8VV, EL2AM, FB8YK**, FO8KP, **FW8AF, HK0HMU, HP1XBW, HZ1AB, I8SAT, J28EB**, JT1BG, **JY3ZH, JY8CC, K3ZO/HK3, P29GG, SV1AR, SV1OL**, T30AT, **TG9HK, TG9VT, TR8CR, TR8JDL, TZ6FIC, UB5FDF**, UQ2GFM, V2EU, V85HG, VK9ND, VK9ZA, VK9ZW, VP2MCG, VP9CP, VS9RVE, ZB2CR, ZB2HX, ZK2RS, ZL8AFH, ZS1LI

AL

BRAINSCAN DIAGNOSIS BY TELEPHONE

Neurosurgeons at the Frenchay Hospital, Bristol, South West England, can now diagnose brain injuries by telephone from their own home.

They are evaluating a system developed by British Telecom in which images on the brainscanner at the hospital are transmitted via the public telephone system to their television set, using electronic "black boxes."

By using a slow-scan television technique, a picture is transmitted every 30 seconds from the black box connected to the brainscanner and appears on the TV screen. The system can also transmit four pictures simultaneously to appear in different quadrants on the screen. In this way the neurosurgeon can see the patient, the brainscan and other details as necessary.

Dr Ian Mackintosh of the Frenchay Hospital medical physics department says: *"The system could revolutionise diagnostic methods for very little cost. No longer will surgeons who are away from the hospital have to rely on verbal descriptions of injuries or brainscans. They can see for themselves. The system can be used to transmit X-ray pictures, sonic imaging or any other image using the 'black boxes' or a standard video camera. In fact, the pictures can be transmitted anywhere in the world, via the normal telephone system."*

During a three-month experiment, Frenchay Hospital will use the system with two other local hospitals. Medical experts will be able to get instant second opinions from collegues, a big advantage for patients who will not have to be moved.

From Information Technology from Britain, 1.6.84. AL

PHILIPS QSO PARTY

The Philips UK Amateur Radio Group will hold their 6th International QSO Party — 1984 for employees and retirees of Philips Concern Companies and Affiliates during September and November. There will be four separate contests: VHF, HF-Fone, HF-CW and SWL.

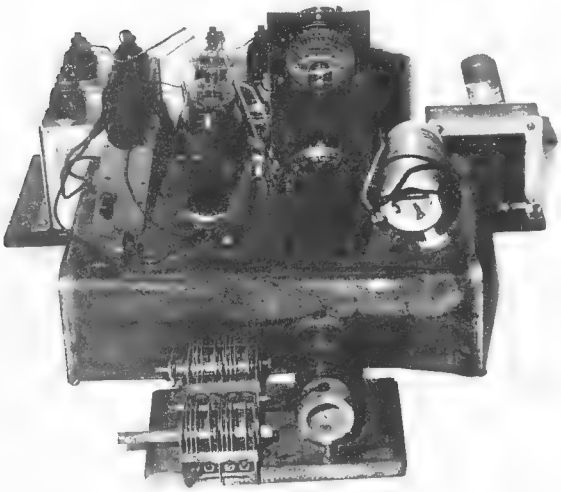
Oceania stations are asked to make a special effort to join the party this year. The European and American operators will be listening for us — the rules give us more points per QSO.

John VK4KJW (QTHR VK4NRQ) has all details and log-sheets. Further information may be obtained from him. AP

MAX LOVELESS MEMORIAL

The story of "Winnie the War Winner", the World War II radio transmitter which was constructed by Australian guerillas on Timor during the early part of World War II was the subject of an article in "AR" for August 1980. What may not generally be all that well known is that Max Loveless, the person whose initiative and skill actually constructed "Winnie", was a radio amateur prior to and after World War II, was an active member of the WIA and for a time was a state councillor of the Tasmanian Division.

Barry Riseley, VK7KAD
BRANCH SECRETARY, ATEA



Apart from his war service, Max spent a lifetime in Tasmania. During the Great Depression he humped his swag and was one of the many who walked overland into what was then Tasmania's wild west coast mines and spent time underground. He spent a lifetime in real wireless communications. He played with the new fangled gadgetry of the early 1930s, worked for the ABC in Hobart immediately prior to World War II and spent time in the AIF in Timor during the early dark days of that conflict.

It was there that he built "Winnie the War Winner" the radio transmitter constructed on kerosene tins and built up of recovered domestic radio equipment, captured Japanese apparatus and the remains of a low-power Australia wireless set. Until the successful contact with Darwin on this apparatus, using a Morse key made from bamboo, the 200-odd army personnel, who were left on Timor, were thought to be either killed or POW. They had lived off the land for a number of months and kept 15 000 Japanese crack troops occupied who could otherwise have been moving into northwest Australia. "Winnie the War Winner" is now preserved in the Australian War Museum in Canberra

Max epitomised the craft of a technician. His work with the old PMG's Department earned him the respect of all who knew him. He had the ability to create equipment items which were both first-class from a functional, practical point of view as well as being faithfully constructed works of art. He set high technical and craftsmanship standards for both himself and those who worked with him

Max VK7ML, loved the world of wireless and was a born innovator. One thing that comes immediately to my mind is his "Chromax Calculator", a little circular slide rule from the resistance colour code/Ohms Law. Another is the astronomical telescope he constructed featuring hand-ground lens and was the product of literally hundreds of hours meticulous patient labour.

I had the personal good fortune of being associated with Max as a working colleague for around a decade prior to his death in 1971. His not always so patient supervision and guidance was for me an experience that I could myself fortunate to have received On those very few occasions when, during that whole time, Max could be persuaded to talk about his experiences on Timor I managed to glean some appreciation of the real character of "Winnie".

The unit itself was built up of a motley collection of gear based on a broken-down 101 or 109 Australian Army set and some captured Dutch domestic gear and a meter and some other bits stolen from the Japanese. Apparently, when the transmitter was first used and no contact was established with Australia, Max, in an endeavour to get a bit more power out of the device, altered the rectifier set up from full wave to half wave to increase the output voltage on the plates of the 807s. I know that no multimeter was available as Max's meter had earlier been dropped and had been smashed. Solder was also in very short supply and facilities had to be improvised.

There must still be people in Australia who have first hand experiences of "Winnie". I do hope that this article, and our endeavours, may bring them forward to help us document this fascinating story for posterity.

Max was an active member of the ATEA during his working lifetime. He was a shop steward and a vocal spokesman for his fellow man. His unique sense of humour and rare ability to successfully ignore the trappings of bureaucratic authority made him an almost legendary personality.

The Tasmanian Branch of the ATEA has decided to honour Max's name and the memory of all those people who have been engaged by vocation or pastime, in the pioneer days of communications. The endeavours of these pioneers have brought us to the current state of the art which we now all enjoy.

It is intended that a collection of valve-era equipment will be gradually assembled, restored to working order and made available for public display. Hopefully, the whole collection will be able to be placed in a permanent formal museum environment through the co-operative efforts of established authorities in that area. It is not intended that this collection should compete in any way with existing endeavours by other public or private initiatives, rather, we would see our efforts as being complementary to existing endeavours by both public and private collectors. We think that the preservation of actual "communications" equipment as distinct from telephone/exchange/telegraphy and domestic wireless has been largely neglected. We aim to assist in filling that gap.

We have reasons to be confident that there is now a very good chance that "Winnie the War Winner" will be made available by the Australian War Memorial authorities for a brief display in secure circumstances in Tasmania.

We have now located two intrinsically interesting items. Firstly, an AM transmitter built in the mid-1950s by Max Loveless as the heart of VK7ML and also the FT200 which he used up until his death. Both these items are available to the collection and will be obtained and restored. Another real gem that has been acquired is the transmitter and receiver originally used by the late Max Chaplin VK7CA. This beautifully built gear is of course AM/CW and was built around 1947 and epitomises "the craft" of that era. The whole unit will be restored to full working order and will be a centrepiece of our collection.

Obviously, if the collection is to be successful apparatus is required. In particular, any of the following items are eagerly sought:

— *old ex-service gear, in particular an R101 or an R109 set (these were actually in use on Timor and would be fundamental to the collection), No 22, No 19, HR0, AR8, AT5, AR88, B28, B40 and similar apparatus. (Some limited funds are available for the purchase of such equipment.)*
— *home brew apparatus of all types which may have been discarded in intervening years.*

MOST IMPORTANT PLEASE — before you toss out your old junk valves, components, books, magazines, etc give the Max Loveless Pioneer Memorial people an opportunity to take it off your hands. Your assistance will help ensure that at least part of our communications heritage is preserved for posterity.

Should you feel able to assist us in this most worthwhile venture please contact me by telephone in Hobart (002) 28 6351 or perhaps write to GPO Box 215C, Hobart. Collection anywhere in Australia could be arranged.

With the co-operation of the editor of "AR" we hope to bring you progress reports from time to time as well as to signal out items we urgently require. We know our endeavours will be successful.

AR

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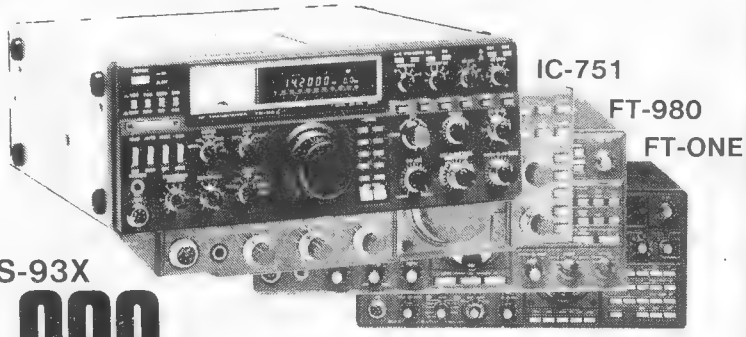

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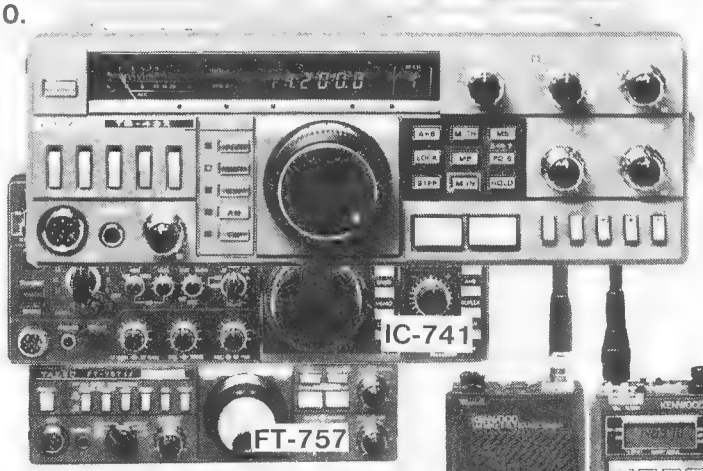

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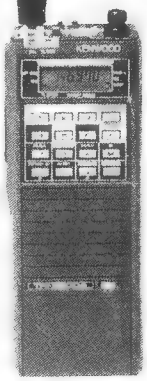
TR-2600A
High quality
Low price



TH-21A
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TH-21A
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DCS "Digital Code Squelch", a revolutionary signalling concept for Amateur radio that utilizes the most advanced technology, has just been announced by KENWOOD
Not to be confused with CTCSS (Continuous Tone Coded Squelch System), DCS uses digital code information to open squelch on a receiver that has been programmed to accept the specific code being transmitted The system recognizes 100,000 different 5 digit code signals, making it possible for each station to have its own "private call" code, as well as to have a "group call" or "common call" code DCS is also effective in suppressing unwanted signals A 6 digit maximum Amateur station call sign may be programmed in ASCII code, and transmitted in conjunction with the DCS code The digital data information group is transmitted automatically, whenever the transmit key is pressed and released An optional "Call Sign Display" is available that stores the calling station call sign in its memory, for future reference, and also displays it on an LCD readout. The "Call Sign Display" is capable of storing the call sign data of up to 20 stations, allowing the operator to quickly check for calls, if he has been absent from his radio, and to review his contacts for logging purposes.
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POUNDING BRASS

Marshall Emm, VK5FN
GPO Box 389, Adelaide, SA 5001

HAPPY BIRTHDAY TO POUNDING BRASS!

Yes, Pounding Brass is two years old this month. It's hard to believe it but it's true — the column started out in the August, 1982 edition of Amateur Radio It's been an interesting two years for me, and I trust you've enjoyed the column over that period

A phone call the other evening from a Novice with a query about operating procedure made me stop and think that we've got pretty well away from the original intentions of this column in recent months. That had to happen, to some extent we started off with a column of "how-to-do-it", and although CW operation is relatively complex, you can cover it pretty thoroughly in a matter of a few months. So we went on to other aspects of CW a bit of history, a bit of controversy, and of course a lot of opinion!

Meanwhile, there are a lot of new amateurs in Australia, and some of them might be wondering how to turn themselves into Brass-pounders So, beginning in next month's column, we'll go back to first principles from time to time and repeat (and perhaps improve upon) the material published in those early columns

This month I'll try something completely different

As the proud owner of an IBM Personal Computer, which was purchased for purposes of word-processing this column, educating the children, and so-forth, it quickly became apparent that a "Morse" package was in order

There are many micro computers around, and many programmes for either keying transmitters or generating practice code, but the IBM PC, with Microsoft's Advanced Basic, presents an opportunity or two for a simple but effective package

First I'll explain what it does, and then I'll tell you how it does it, so you can determine whether it will run on your own beast

The package, modestly titled "Codemaster", is a menu-driven, user-friendly package designed to

1. Aid in learning the Morse code, and
2. Provide practice material for increasing speed

Options available as menu selections are as follows

1. Keyboard Echo. The computer will sound characters as they are struck on the keyboard. If more than one character is struck, the computer will send from the keyboard buffer at the speed nominated. Speeds from 5.5 to 41 WPM are available

2. Random Groups. The student can select speeds from 5.5 to 41 WPM with proportional spacing; groups of letters, numbers, or mixed letters and numbers, group size from 2 to n characters, and the number of groups to be sent

3. Random Words. These are actual words which have been chosen for stressed occurrence of difficult characters. A bank of words is provided and they are selected at random Different words can be entered into the bank easily by means of the Basic editor.

How does it work? To start with, a conscious decision was taken not to worry about actually keying anything. Reasons for this decision were that I personally feel that computer generated CW on the amateur bands is great for computers who want to talk to each other, but not so good for human operators. Also, unless extraordinary precautions are taken, RF and computers do not mix very well Of course anyone who wants to drive his rig, or a practice oscillator with this programme should be able to make the required modifications without a great deal of difficulty, and some suggestions are given in the documentation.

Any code programme must be based on the computer's clock, which operates at a known and divisible rate. In the case of the PC, and some compatible beasts, Microsoft has given two easy ways of converting time into tone — the PLAY statement and the SOUND statement I have chosen to use the PLAY statement for ease of coding and manipulation, and the actual listing is quite short for what it does.

The PLAY statement is used to have the in-built oscillator, play through the speaker, a specified musical note of specified duration and with specified attack. The parameters can easily be set so that sending speed is controlled with the TEMPO option

Virtually any audible pitch could be selected, but on the Basic scale, Note number 44 is closest to 800 Hz, so that's the one I've used

Code characters are described as a series of Note 44s separated by rests. The description is filed in an array according to the character's ASCII code, and when called by the programme is executed as PLAY X$, where X-string has the appropriate ASCII value

In looking at compatibility of non-IBM machines, the only other Basic feature which is perhaps a bit unusual is the random number generator However, anyone who even thinks he can adapt a Basic programme from a listing should certainly be able to adjust the random number generator

For those of you who own or have access to an IBM PC or XT, running Codemaster is simply a matter of loading it from an "autoexecutive" diskette and following the screen prompts

For those of you with a machine which is otherwise compatible, that is, runs an advanced version of MS BASIC (supporting the PLAY statement), but which cannot read IBM formatted diskettes, it is a matter of keying in the programmes from the supplied listings

I wrote it mostly for my own benefit and to help a close friend upgrade to 10 WPM. He had attempted the 10 WPM four times, unsuccessfully, and I thought I might have the answer. Well, it worked He is now a full call, and he said to me *"You know, I think you've got something worth selling*
So there you go

Obviously I have no intention of getting rich from the sales of this software. If that had been my intention I would have written for the VIC-64 or similar!

Listings and user guide — $10.00
IBM-PC diskette ready to load and go, with user guide – $15.00 plus blank diskette
Diskette, user guide and listings — $20.00 plus blank diskette

Next month it's back to basics (as opposed to Basic) till then, 73 ES GL. **AR**

ALARA

Australian Ladies Amateur Radio Association

Margaret Loft, VK3DML
28 Lawrence Street, Castlemaine, Vic 3450

Congratulations to all who were successful in the May exams and our very best wishes to those sitting for the August exams. The YL's were very pleased with the results they received.

NEW CALLSIGNS

Bev VK6DE formerly VK6NYL
Margaret VK2MV formerly VK2DQG
Bron VK3NTD/3XTD
Valerie VK4FKL formerly VK4VKT
Phil VK4JFA formerly VK4NDG
Ann VK4JAB formerly VK4NXK
Denise N7FXF formerly WA2ADG
Meg VK5??? formerly VK5NOE
Betty VK2??? formerly VK2NYL

Bron VK3NTD/XTD

MILDURA GET-TOGETHER

Plans are well in hand for next month's weekend for ALARA's first official gathering. Over 40 have indicated they will be attending, so we are all looking forward to meeting all members who are able to be present. Marilyn VK3DMS is in charge of the arrangements backed up by the Mildura district amateurs who will be helping with the catering. Saturday 15th September Barbeque lunch and afternoon tea at PI Hall followed by a Smorgasbord dinner at QTH of Marilyn and Geoff VK3ACZ. Sunday 16th Car tour of the area followed by lunch cruise on the PS Avoca.

Val VK4VR formerly VK4KCJ

MRS MCKENZIE TROPHY

The Trophy donated by the Townsville Amateur Radio Club in memory of Mrs Florence V McKenzie was presented to ALARA's president Helene VK7HD in Townsville on 1st June at a Barbeque Tea. This was arranged to coincide with Helene and OM Peters trip to Queensland; TARC President Bob VK4WJ was host and approximately 20 members with XYL's and families attended.

The Mrs Florence McKenzie CW Trophy will be awarded to the Australian YL NOVICE operator with the highest CW score. Minimum score on CW 50 points.

The actual trophy, because of its size and weight will not be forwarded to the winner, a certificate bearing a photo depicting the trophy will be sent to the winner each year.

The trophy will be on display at Mildura for members to see it.

NINTH BIRTHDAY

On Monday 27th August ALARA will celebrate their ninth birthday so join in and wish ALARA many more years. Membership is steadily growing and we always welcome new members. Enquiries to Valda VK3DVT, PO Box 4, Brighton, Vic 3186.

YL ACTIVITY DAY

On the 6th day of each month, call CQ YL hourly UTC on 21.188; 28.588; 14.288 MHz. I was very pleased to talk to Peggy VK6NKU for the first time on 6th June and also to meet Rosalie VK3DYB on 80 metres.

33/73/88 Margaret VK3DML **AR**

EDUCATION NOTES

Brenda Edmonds, VK3KT
FEDERAL EDUCATION OFFICER
56 Baden Powell Drive, Frankston, Vic 3199

Comments are frequently heard about the standards of operation and knowledge displayed by newly licensed amateurs. It is very easy to forget that we have all gone through that stage at some time, but perhaps those of us who took up the hobby ten or more years ago, had a bit of an advantage over many of today's 'new recruits'.

Mostly our interests were developed by a friendship with an active amateur — or two — who was only too happy to answer questions, explain details, and supervise some occasional building or operating.

In recent years, our newcomers have very often been from the ranks of the Citizens Band Operators, so have missed out on much of this 'coaching'. Even if classes are provided for intending amateurs, it is difficult to include the practical aspects of how to operate a station or initiate a QSO, or to spend time on the niceties of operating protocol.

I have therefore been very interested to hear of a few ploys being used by some clubs that are running classes but are not satisfied with simply covering the given syllabus. One club is insisting that each class member have an established amateur as 'tutor' for visiting, discussion and encouragement between classes. Another club has rostered its members to hold 'open house' for the class members to see a shack in operation and to gain supervised 'on air' experience. Whether or not these procedures will produce better exam results or more efficient operators, I can see them as having considerable potential value for many enthusiasts. I would like to hear from any other clubs which run schemes of this type, especially if their schemes have been in operation long enough to have been evaluated.

I have expressed previously my admiration for the lone students in the remote areas. These students in particular need any help that we can give. I wonder would some of the active clubs or groups be prepared to 'adopt' some of these individuals or small groups. A regular newsletter, answers to questions, circuit diagrams with explanations or copies of useful articles would be much appreciated by many of these students. In addition, many groups which include Novice operators would be very pleased to establish regular contacts with more experienced operators.

For some time now I have had the idea of building lists of operators who are willing to help newcomers in their areas, or in particular remote areas. If you would be prepared to offer some time occasionally to give a hand to some of these enthusiasts, drop me a line, or call in on the Education Net which I am trying to encourage — every Thursday evening 1130 UTC about 3.685 ± MHz. I am always pleased to receive comments on education matters.

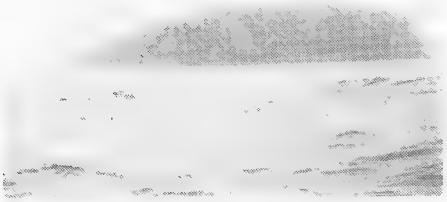
Best of luck to all those sitting for the August exams.
73, Brenda VK3KT

AR

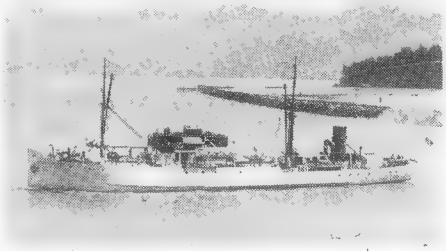
The other Kermadec DX Expedition

John Hopkins VK2NRH
656 Elm Street, Albury, NSW 2640

In A R recently there have been several articles about DX Expeditions to the Kermadec Islands. However I doubt if many readers have heard of the Kermadec DX Banana Expedition.



Raoul Coast



Maui Pomare

The Survey Party. Henderson is on the left.

The Kermadec Islands lie about 960 km north-east of New Zealand and are mostly volcanic. They are uninhabited except for Raoul or Sunday Island which is steep and wooded and rises to a height of 500 metres and has no sheltered anchorage.

This expedition started very simply in 1937 as an island cruise by myself and a friend Nick, from Wellington to Samoa and back, aboard the NZ Government vessel "Maui Pomare". She was not a large vessel and it was rumoured that her diesels were originally used in a power house in Ireland and subsequently converted to marine types. The day we left Wellington it blew a howling southerly. In addition a disgruntled seaman had "accidentally" dropped a vital piece of gear overboard. Eventually we sailed.

Next day the dozen passengers introduced themselves and we found that most were members of a NZ Government group who were to set up a Meteorological and Radio Station on Raoul Island. We were to take them there, land them and their equipment, and call in on the return voyage to New Zealand to see if all was well. The group had all stores necessary as well as timber to build a hut and a boat, a 27' Montague whaler naval craft equipped with masts and sails but no motor, which was thought suitable for landings.

None of the officers or crew of the "Maui Pomare" had been to Raoul nor had any of the party much experience in boat work. One of the members of the party named Henderson later became Navigation and Despatching Officer at Bermuda during 39/45 and later was with PG Taylor during the epic flights of the "Tropic Bird" across the Pacific via Clipperton Island.

When we arrived at Raoul a boat was sent to seek a landing place and the next day the task of landing stores and timber was started. The passengers decided to do some fishing, and enough schnapper to feed the whole ship for a couple of days was caught.

During the evening the shore party radioed that a very high tide had washed some of the timber away. All boats were launched and Nick and I spent the next few hours rowing round the South Pacific looking for baulks of timber, luckily all were found.

On return we were judged in need of a restorative, so the ships medical supplies were broached and all received a generous tot of that well known Queensland remedy for what ails you.

The Raoul climate is suitable for growing bananas being warm and having rich volcanic soil, some were already growing there but they were not suitable for eating. It was thought that some edible varieties could be brought on our return voyage.

Our task completed we left for Samoa only to spend a couple of days in a fruitless search for the flier Amelia Earhart, the weather was foul.

On arrival at Samoa the Agricultural Department organised a supply of some banana plants of different varieties, in tubs ready for shipment. As the officers and crew had their daily tasks, and as we were the only passengers now it was put fairly forcibly to us that we should tend the bananas. After all we had nothing to do?

My sympathies are all with the crew of the "Bounty" and what they had to do looking after breadfruit and we were paying for the privilege.

Those plants had to be watered, protected from salt spray, and kept away from the night dews till they got to Raoul. The plants were duly delivered and we later heard that they were all flourishing. So ended the "Kermadec Banana DX Expedition". AR

VHF UHF - an expanding world

Eric Jamieson, VK5LP
1 Quinns Road, Forreston, SA 5233

All times are Universal Co-ordinated Time and indicated as UTC.

AMATEUR BANDS BEACONS

Freq.	*Call Sign*	*Location*
50.005	H44HIR	Honiara
50.008	JA2IGY	Mie
50.020	GB3SIX	Anglesey
50.075	VS6SIX	Hong Kong
50.945	ZS1SIX	South Africa
51.020	ZL1UHF	Auckland
52.033	P29SIX	New Guinea
52.150	VK0CK	Macquarie Island
52.200	VK8VF	Darwin
52.250	ZL2VHM	Manawatu (1)
52.300	VK6RTV	Perth
52.310	ZL3MHF	Hornby (2)
52.320	VK6RTT	Carnarvon
52.325	VK2RHV	Newcastle
52.350	VK6RTU	Kalgoorlie
52.370	VK7RST	Hobart
52.420	VK2RSY	Sydney
52.425	VK2RGB	Gunnedah
52.440	VK4RTL	Townsville
52.450	VK5VF	Mount Lofty
52.465	VK6RTW	Albany
52.470	VK7RNT	Launceston
52.490	ZL2SIX	Blenheim
52.510	ZL2MHF	Upper Hutt (2)
144.019	VK6RBS	Busselton
144.420	VK2RSY	Sydney
144.465	VK6RTW	Albany
144.480	VK8VF	Darwin
144.550	VK5RSE	Mount Gambier
144.600	VK6RTT	Carnarvon
145.000	VK6RTV	Perth
147.400	VK2RCW	Sydney
432.057	VK6RBS	Busselton
432.410	VK6RTT	Carnarvon
432.420	VK2RSY	Sydney
432.425	VK3RMB	Ballarat
432.440	VK4RBB	Brisbane
1296.171	VK6RBS	Busselton

(1) Denotes a correction to call sign and location
(2) Denotes a correction to location

Additionally, New Zealand has two metre beacons as follows:

145.100 ZL1VHF; 145.150 ZL1VHW; 145.225 ZL2VHT; 145.250 ZL2VHP; 145.200 ZL2UHF; 145.280 ZL2VHN; 145.300 ZL3VHF; 145.400 ZL4VHF; 145.425 ZL4VHI.

New Zealand 70cm beacons are located between 433.100 and 433.250 and on 1296 MHz between 1297.000 and 1297.225. Also on 10.25 GHz and 24.10 GHz!

SIX METRES

What must be the best piece of news for a long time comes in advice from DOC to the WIA of the relaxation of some of the restrictions to the use of 50 to 52 MHz by Australian amateurs. Whilst the information will no doubt be featured elsewhere in "Amateur Radio" being very relevant to this column it seems sensible to mention the changes here. Here it is.

50 to 52 MHz: *(1) Outside of all Channel 0 stations transmission hours there are no special restrictions anywhere.*

(2) Within TV transmission hours:

(a) Western Australia and External Territories: 50.000 to 50.150 — no restrictions; 50.150 to 52.000 restricted to 100 watts.

(b) Northern Territory; 50.000 to 50.150 restricted to 25 watts; 50.150 to 52.000 restricted to outside of TV hours.

(c) Queensland, Victoria, New South Wales, Tasmania and South Australia: 50.000 to 52.000 restricted to outside of TV hours.

(3) After 1st January 1985 with the closing of Channel 0 Melbourne: South Australia and Tasmania: 50.000 to 50.150 at any time with a maximum of 25 watts; 50.150 to 52.000 restricted to outside of TV hours.

That it has been possible to negotiate some lifting of restrictions must be seen as some reward for those in the WIA and elsewhere who have no doubt spent a lot of time thrashing out the details, and the amateur fraternity should be very grateful for what has been achieved so far.

Whilst acknowledging the efforts of those higher up the scale it should not be overlooked that in general the amateurs themselves have shown quite admirable restraint in their use of 50 MHz during the past year, and I personally have not had any advice of problems being caused as a result of having restricted usage of the lower end of the band and possibly this fact has come home to the TV stations themselves.

During periods of Es activity in particular, it is inevitable there will be some interference to Channel 0 transmissions from a variety of sources, eg co-channel interference from Ch 0 stations elsewhere, interference from New Zealand TV stations, plus interference from various radio transmissions in that portion of the spectrum from overseas sources, military stations in Australia, as well as the Australian amateurs, either in the State of TV transmission or from other States. It would be quite difficult I imagine to be able to say specifically that any one TV station was receiving interference from a clearly defined source, and this applies equally to the amateurs. From a TV stations point of view, they simply represent another source of interference and up until now have fairly successfully suppressed the amateurs' usage of that portion of the band in which they directly transmit.

The fact that in the past the amateurs with their usage of 52 to 54 MHz have been able to operate without much restriction except from the point of having to live with your neighbour etc can surely be seen as a fairly disciplined usage of the band. The fact that stations in Melbourne and Brisbane in particular have been able to live with a Channel 0 station on their doorstep and still share in a measure of successful DX working is a tribute to those stations, who either through a system of either limiting power to a few watts and/or using vertical polarisation at their antenna, or limiting their conversations to the barest words essential to make a contact, have come up with some surprising lists of countries worked.

Probably the greatest advantage the whole country now has is that particularly when F2 and similar DX is around, it is often before TV hours that contacts are possible with overseas stations. I can remember working XE1GE several times around 2200 to 2300 UTC several years ago, and there were other stations too. Quite often exotic contacts are finished or the stations are fading out by the time the TV stations start up, so it's still the early riser who makes the contact!

Ultimately we would hope the whole country will be able to operate 50 to 54 MHz without restriction as so many other parts of the world have done for a long time. In the meantime it appears there are some rays of sunshine around and providing we don't become stupid and spoil what has been granted by indiscriminate operating and causing wilful interference, we can surely expect further relaxations from time to time.

FROM JAPAN

From "CQ Ham Radio" printed in Japan and sent courtesy VK6RO, it is interesting to note the measure of activity there during the latter part of January and through February. The JA's have been working an incredible number of ZL's on 22/1, 29/1, 31/1, 12/2, 13/2, 16/2, 18/2, 19/2, 23/2, 24/2 and 29/2. Areas worked were ZL1,2,3,4 and 8. In the same time VK stations were worked on fourteen occasions, with stations in VK2,3,4,5,6,7 and 8 participating. In addition YJ8RG, FK8EM, FK8EB, FK8AX were worked, the FK8's more than once. The prime catch must have been when JF2PYZ worked LU4HE in Argentina at 0920 on 29/2. Also of some merit was the split frequency contact between ZL8AFH on 51.110 to JA2VFH on 50.110!

SIX METRES OVERSEAS

I suppose there are those of you who tire of what seems an almost endless stream of information regarding 6 metre activity from various parts of the world, but it is really the only band we have in the VHF/UHF spectrum which has anything approaching global coverage, be it only at specific times. There are many outstanding contacts on the higher bands of course, and they are reported as they come to hand, but 6 metres continues to provide outstanding contacts after what has generally been acknowledged a long time since the peak of Cycle 21. Therefore, I make no apologies to you for passing on what happens in other places, as by so doing we do at least have some record of what has occurred wherever that might be and will ultimately give us and those that follow a chance to make comparisons in the years and cycles that will surely come.

Having said that, I now draw on Bill Tynan's page "The World Above 50 MHz" in QST for June 1984, which fairly sums up the measure of activity occurring in the Northern Hemisphere, which seems to have run parallel to our enhanced activity so prevalent during March and April. It seems now that what we shared in here was only part of a general global activity on the band, and the excitement it caused will ensure that the 6 metre rigs are not put into mothballs at many locations for a while yet!

The report starts with advice from K5ZMS (Smirk No 1) on 20/3 when LU's and HC2FG (Ecuador) were S9+20dB at 0440. LU's had already been noted on 18/3. On 25/3 at 2000 W1HDQ worked LU8YYO, LU1YBV and TG9NX (Guatemala.) Three more LU's were worked on 26/3 and YS1ECB (El Salvador) was heard, plus XE (Mexico). On 29/3 LU4,7,8 and 9 were worked, also CE4FMQ in Chile!

Apparently the US was in for bigger game. On 31/3 WA5IYX worked ZL's 1AKW, 1MQ, 1BHV, 2AQR and 2FL between 2100 and 2230. The opening continued into the evening with XE stations S9+. On 1/4 beginning at 0200 KH6IAA was very strong, and VK2DDG was heard working WA5HNK in Houston. Later K5ZMS and WA5IYX both worked VK2DDG. It was noted that the Pacific stations were not very strong, and did not disappear until 0410, about seven hours after the band opened.

West Coast USA had some good DX with W6XJ working many Pacific stations, including FK8EB. K5ZMS had already reported that at 2240 on 29/3 WA4UAS had worked VK2BA. Another Florida station K4QXX on 1/4 worked many LU's and HC2FG, and a new country for him ZP5XDW (Paraguay).

The next main DX erupted on 5/4 with K1TOL working LU1DZ during an aurora. WB4OSN worked VK2BA and ZL7OY, and on 6/4 WA6JRA worked YJ8RC, and heard VK4ALM, FK8EB and ZL7OY. The following day he worked ZL8AFH (Kermadec), ZL7OY (Chatham Is), FK8EB and VK2FNK. The next day much the same stations were heard as well as VK2DDG. On 6/4 CE4ETZ and CE4BQO were worked by K8EFS, while TG9NX reported working some thirty US stations that afternoon, mostly 4, 5 and 9 areas. Also on 6/4 ZL2KT worked PJ2DW (Netherlands Antilles) which is a fairly long haul, and this had to be done on 51 MHz due to local TV interference. N0LL in Kansas worked many LU's on 7/4, plus ZK2RS (Niue). On 8/4 ZL's were worked by K5FF.

On 11/4 K5ZMS reported PY3AK, PY3BAM and PP5WL (Brazil). Also included were CX4BA (Uraguay),

V3FB (Belize), YS1ECB and LU's around 1920. On 12/4 it was LU's again, and KH6IAA worked a KP4 at 0200.

That's a somewhat abbreviated coverage of the happenings in the north and shows the band to be far from dead when conditions are right. As I have said many times before, if nothing else, the immense activity associated with Cycle 21 brought so many more stations on to 6 metres that if only a small percentage continue to populate the bands there will be some rare contacts available from time to time, and we may well share in some of them in due course.

VALE: VK4DO

It is with deep regret I have to inform you Harold Hobler, VK4DO, passed away on 6th May 1984.

Hal, as he was known to all, came on the air officially in March 1923, and had AOCP Certificate No 110. He transmitted voice and music prior to that with the call 4DO on Sunday mornings on 240 metres with a grid modulated UV202 oscillator valve running 5 watts! Over the years he had the call signs A4DO, AO4DO and finally VK4DO.

Over the years Hal received many HF operating awards, WAC in 1934, WBE 1935, DXCC 1948, WAP 1951, Cook Bi-Centenary 1970. He obtained eleven firsts for VK4 in the "CQ World Wide Contest", five awards for the Ross Hull Memorial VHF Contest and the trophy itself in 1977 and 1979.

Hal was a member of the WIA for over 45 years, and helped to form the Central Queensland Branch of the WIA around 1960 and served nine years as its President. In 1978 the Queensland Division honoured him with their Merit Badge and Certificate for Meritorious Service to the Institute, and Life Membership was bestowed by the CQ Branch in 1949.

Of more recent times Hal spent quite a large portion of his on air time operating the VHF bands, and amateurs in all states will remember his rather distinctive voice on six metres, especially during the Ross Hull Contest when he usually managed to amass quite large scores. If a QSO was in progres Hal would often choose a lull in the conversation to break in simply with "VK4DO" and after an exchange of contest numbers would as quickly leave the QSO.

Hal probably had the distinction of being one of the few amateurs to still have the main components of his original call all his operating life, and in this case 61 years. His voice will be sadly missed on both the HF and VHF bands.

SERG CONVENTION

The South East Radio Group at Mount Gambier held their 20th Annual Convention over the June holiday weekend, and a great success it was as usual. All activities were held at the Show Ground Hall with one large hall filled with trade stands and exhibits, whilst the adjoining hall was used for the provision of food and other activities, a scheme which worked very well.

Photograph by Gil Sones VK3AUI

Des VK5CO at the SERG Convention.

The weather generally was kind, a bit cool, but fine mostly, which was just as well as there was a very large programme of events. In the final sorting out it was found VK5 were the winners over the VK3's. Bevan VK5TV was once again well to the fore with his winning streaks, no doubt born as the result of many years of practice at Mount Gambier together with a car load of transceivers!

Photograph by Lionel Curling VK3NM

A group at the SERG Convention.

Photograph by Gil Sones VK3AUI

Preparing for the SERG Foxhunt.

The 1985 Convention promises to be something special as it is already being noted as a "Coming of Age" Convention, or twenty-one years and we certainly hope there will be enough helpers from the Group to ensure that the function is held.

LETTER FROM THE UK

Norman G3FPK, in a letter to me has included a few items which might interest readers. Briefly they are: Although in the UK all Band 1 TV is to close at the end of 1984, there still remains some BBC outside broadcast links in the band, which are generally used for special occasions such as elections, major Royal events etc. However, much of Europe is likely to continue to use Band 1 for quite awhile yet so there seems little likelihood of 6 metre operation from there. This, in turn, will cause a lot of krud to appear on 6 metres when the band is open and so making it difficult for the UK operators while at the same time they will probably put a few lines on some TV sets on the Continent too!

The triennial IARU Region 1 Conference was held in Sicily from 8 to 13 April and of interest to VHF-ers was the decision to adopt the Maidenhead, or World Locator System from 1st January 1985. At present contests there use the European QTH Locator System consisting of five characters. While good enough in the early days, it has now proved too limited as the

"squares" repeat. It is acknowledged there will be some diehards who will resist the change, but it seems the Maidenhead System is now firmly entrenched in many areas.

The UK 70cm band is now 432 to 440 MHz and shared on a secondary basis with the Ministry of Defence and conflicts of interests occur between the usual tropo traffic, EME, satellite up and down links, FM repeaters and ATV. The ATV people are being asked to shift up to 23cm and so far five repeaters have been granted licences in that band.

Norman's last paragraph is quite interesting and I quote: *"There was a huge amount of solar activity starting 24th April when an X-ray burst of X-13 magnitude was recorded; the highest ever. A solar burst lasting nearly seven hours knocked out all the HF broadcasting and the sun noise was S9 plus. Auroras occurred on the 25th and 26th but weren't spectacular in these latitudes. A peak solar flux level of 220,000 flux units at 245 MHz was recorded! This was the most energetic solar event of Cycle 21 — very unusual considering where we are on the curve."*

1296 MHZ IN VK5

With the advent of reasonably priced 1296 MHz FM transceivers (IC120) the band has received an upsurge in activity in South Australia at least. Steve VK5AIM, Ken VK5KEN, Bob VK5ZRO and Syd VK5ME to mention some are now all able to communicate on the band, and I understand Don VK5ZRG at Whyalla also is coming in on the act. Full strength signals are being exchanged by all parties who have the benefit of nothing in the way on the Adelaide Plains. It will be interesting to see how contacts might eventuate to Whyalla and how much more difficult they might be than 70cm which are obviously a pushover for the 220km.

Bob VK5ZRO has been hinting to me that I should take the plunge on 1296 MHz but in view of the 60dB attenuation I already "enjoy" on 70cm when looking to the west in particular, one wonders what order of magnitude of signals would be needed to span the 25km between our two locations, with the hill in between! At my location at any rate, FM has not proved to be a good means for communication under poor conditions on any band particularly with vertically polarized antenna systems. Results are better with horizontal polarization. For the time being it looks as though I will have to content myself to improving the 1296 MHz transverter I have and wait for awhile to see if an all mode 1296 MHz transceiver comes out, it would be much more useful in my poor location!

GENERAL NEWS

As you may have guessed there is not a lot to report in the way of exotic contacts on 2 metres and up at the moment. The usual VK5 to VK3 night time contacts eventuate occasionally, and the Albany 2 metre beacon can be heard at times. The Mount Gambier beacon continues to plod along and always be available to me, and has proved to be an outstanding indicator of conditions at this QTH . . . Steve VK5AIM has suggested that since "K" calls can now use CW on 2 metres or VHF generally, maybe we should be considering some CW Contests. Any starters? . . . Now that VK5LP has at last finished making a suitable filter for the two metre beacon Mark VK5AVQ will be able to proceed with the installation of the new beacon for VK5VF. The earlier tests showed it would not operate cleanly enough without a good filter so has been in mothballs for the past few months.

LORD HOWE ISLAND

A letter has come to me from Nev VK4ZNC who advises around Christmas 1984 he plans to go to Lord Howe Island and hopefully work on 6 metres from there. He will be financing the airfares and accommodation but would like some help with *"the cost of a small modern 6 metre transceiver which can be fitted into my suitcase for the trip over."*

He suggests there may be fifty or more 6 metre operators around Australia willing to donate $15 each to the cause and which could be used for other such trips in the future. He says *"If I receive little or no assistance then I guess all the 6 metre operators around Australia will just have to dip out on another new and very easy country to acquire on 50 MHz."*

In an effort to gauge whether there is any interest around the country in such a proposal, may I suggest at this stage that if you are prepared to make any finance available that you write to me (VK5LP) by the end of August 1984, so that if we are able to make the purchase you can be contacted again for your donation. It would then need to be determined who would look after the transceiver and the best may be a particular VHF Club or WIA Division — this can be decided later.

As a possible alternative, I do have an IC502 six metre transceiver here which is available for such use, and has been adapted for use on 52 MHz. This equipment plus a suitable linear amplifier, though not as convenient, would at least ensure that some operation could take place. I await your replies.

WILLIS ISLAND ON 6 METRES

Andy VK9ZA, took over from Graham VK9ZW at the end of June. Andy, for his third tour of duty to the island, went armed with an EPROM programmed for VK9ZA to be used in the keyer and a Lunar linear amplifier, which is on its second trip to the island, loaned by Gil VK3AUI for the duration of Andy's stay, which is until the middle of December this year.

QSL arrangements are with VK6YL, either direct or via the bureau.

Photo by Ken McLachlan VK3AH.

Andy VK9ZA (left) receiving the loan amplifier from Gil VK3AUI.

50 — 54 MHZ DX STANDINGS

DXCC Countries based on information received up to 15th June 1984. Crossband totals are those not duplicated by 6 metre two-way contacts. Credit has not been given for contacts made with stations when 50 MHz operation was not authorised.

Column 1: 6 metre two-way confirmed
2: 6 metre two-way worked
3: Crossband (6 to 10) confirmed
4: Crossband (6 to 10) worked
5: Countries heard on 50 MHz
6: Countries heard on 52 MHz

CALL SIGN	1	2	3	4	5	6
VK2BA	28	28				
VK2DDG	25	26		2	12	3
VK3OT	25	25			10	
VK2VC	22	22				
VK2QF	20	21				
VK3XQ	18	20			1	1
VK3AMK	17	17				
VK4TL	17	17				
VK5LP	16	18			7	3
VK7JG	15	17			2	
VK4ALM	15	16				
VK4ZSH	15	16				
VK3NM	15	15				
VK3AUI	14	15				
VK6OX	10	10	1	1		
VK6RO	8	8	3	3	2	

NOTES RELATING TO THE ABOVE:

The minimum number of countries confirmed for an operator to commence being listed is five, including VK.

Some entrants have changed their callsigns over the years. They are listed under their present callsign as that is how they are now best known. VK2BA continues to head the list. Can anyone topple him? The next list should appear in February 1985 issue and entries will need to be on my desk no later than 15th December 1984.

SIX METRE STANDINGS

As you have noted, an upgrading of the Six Metre Standings is included this month as promised, and there have been a number of alterations. There are however, quite a number of first class DX operators out there whose call signs do not appear which seems a pity, as the list is not really representative of the best efforts in Australia when there are operators more favourably placed than many of those who are listed. I do however thank those who have contributed, and their efforts in being able to present such excellent tallies indicates a dedication to the job, and I hope they will continue to keep me informed of any changes to their lists on a regular basis as such changes occur. Congratulations to those at the top end of the scale and this represents a challenge for those further down to get up to the top as well

CLOSURE

Closing with the thought for the month: "Almost every child would learn to write sooner if allowed to do his homework on wet cement." 73. The Voice in the Hills.

AL

QSP

AMTOR BY SATELLITE

The first Amtor contact in the automatic error-correction (arq) mode by satellite took place on 2 March 1984, at 0140 UTC; the stations involved being 9M2CR and DC8AM. Oscar 10 was close to apogee on orbit 540, and the contact was fully successful.

This is, in fact, a major discovery. It was previously thought that arq contacts via satellite would not be possible because of the range limitation on Amtor due to finite propagation delay. However, a detailed analysis of the operation of Amtor Mode A demonstrates that the apogee transit time of the order of 500ms displaces the "handshake" control signal backwards by precisely one frame. Since the Amtor time-frame for the transmission of a three-character block is 450ms, and as long as the normal control signals alternate for successive blocks, the system accepts them even though they are one time-frame late.

This means that a second "window" exists for Amtor contacts when the propagation delay is between 450 and 620ms, and contacts now take place when the satellite is around apogee

from RadCom, June 84

AL

SOFTWARE BY AIR – a copyright problem

Some publicity has recently been given in national newspapers and software magazines to the efforts of a Rochdale software company, A & F Software, to monitor radio amateurs who exchange copyright computer programmes over the air. According to the *Daily Telegraph* of 6 April 1984, the Guild of Software Houses is extremely concerned about the growth in the transmission of programmes by radio, and the Rochdale company has said that it estimates its net loss of business to be some £75,000.

The legal position is that the terms of the amateur radio licence permit the transmission of data, and that there is nothing which prohibits the exchange of non-copyright material – for example, programmes written by individual amateurs which they may wish to transmit to another amateur by radio. However, the effect of the various Copyright Acts is to make illegal the transmission or reception of copyright material such as commercial programmes; these include such programmes as computer games, educational programmes and small business packages.

from RadCom, June 1984

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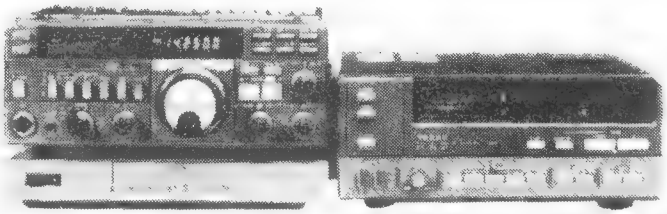

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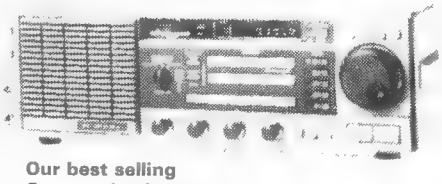

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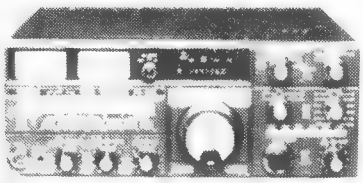

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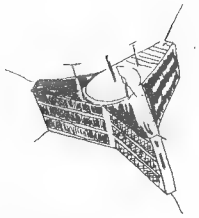

AMSAT AUSTRALIA

Graham Ratcliff VK5AGR
9 Homer Road, Clarence Park.
SA 5034

NATIONAL CO-ORDINATOR
Graham Ratcliff VK5AGR

INFORMATION NETS

AMSAT AUSTRALIA
Control: VK5AGR
Amateur Checkin: 0945 UTC Sunday
Bulletin Commences: 1000 UTC
Winter: 3.680 MHz
Summer: 7.064 MHz

AMSAT PACIFIC
Control: JA1ANG
1100 UTC Sunday, 14.305 MHz

AMSAT SW PACIFIC
Control: W6CG
2200 UTC Saturday, 21.280/28.878 MHz

Participating stations and listeners are able to obtain basic orbital data including Keplerian elements from the AMSAT Australia net. This information is also included in some WIA Divisional Broadcasts.

ACKNOWLEDGEMENTS
Contributions this month have been received from Bob VK3ZBB, Colin VK5HI, AMSAT Telemail and the UoSAT Bulletin.

UoSAT OSCAR 11 STATUS

Copied from UoSAT Bulletin — 78 9th June 1984:

The UoSAT Team at the University of Surrey successfully re-established command over the UoSAT-2 spacecraft at 2135 UTC 6th June on orbit 1418 using the hitherto inoperative VHF command uplink.

Following a successful launch by NASA on 1st March, UoSAT-2 performed perfectly for the first four orbits, switched off the 145 MHz downlink under computer control as instructed and then refused to respond to ground commands. A lengthy series of tests to attempt to home in on the nature of the spacecraft's problem were undertaken over a period of ten weeks — culminating in the successful reception and tracking of the known very low level microwatt signal which is continuously radiated from the microwave receivers on the spacecraft. This breakthrough, by an outstation of SRI International in Greenland, confirmed, for the first time after UoSAT-2 fell silent, that the spacecraft primary power systems were functioning and that the Surrey groundstation was indeed tracking the spacecraft accurately.

The next day — May 14th on orbit 1076 — the Surrey command station succeeded, with difficulty, in switching the 145 MHz transmitter back on using the UHF command uplink. The data subsequently transmitted from the spacecraft allowed the command team to proceed with cautious diagnostic routines to attempt to pinpoint the cause of the problem. After four weeks of exhaustive and painfully slow tests and analyses, the problem has been identified and isolated to a small area of circuitry — about five components — that directs command data received by the spacecraft from the VHF uplink to the command decoder. This crucial circuit has triple redundancy, one for each of the three command receivers, and the same fault has not yet occurred on the other circuits. In keeping with the design philosophy of 'redundancy through different technologies', there are also two routes whereby this area of circuit can be bypassed using either the primary spacecraft (1802) computer or the Digital Communications Experiment (DCE).

Once the problem had been fully understood, the DCE was programmed — using the UHF uplink — to provide a 'bypass' around the fault and, when activated on orbit 1418, restored the VHF uplink back to full capacity. The DCE was chosen to do this task firstly as it would leave the primary spacecraft computer free to concentrate on the complex navigation and attitude control and stabilisation tasks now imminent, and secondly as the DCE requires a shorter 'start-up' sequence transmitted to get it going! The final configuration will depend on operational requirements and the by-pass may be provided by either (or both) computers.

Initial results indicate that the VHF UHF antennas, antenna feeds, hybrid and diplexers are all performing exellently supporting low error-rate full duplex operations at 145 MHz. The current unfavourable attitude of the spacecraft gives rise to a marginal UHF uplink due to antenna directivity — aggravated by low temperatures. This should improve if the spacecraft becomes earth-pointing following attitude control manoeuvres and stabilisation.

Copied from UoSAT Bulletin—79 1st June 1984:

Work continues apace to continue the investigations into the initial problems with Oscar-11, to commission other parts of the spacecraft and to start commutated attitude control manoeuvres.

Major milestones achieved this week include the successful re-powering of the 1802 main computer, the use of the programmable dwell features of the telemetry system and the transmission of a number of new data formats which will be used to help the commissioning procedure.

A daily account explaining the downlink formats transmitted follows:

Saturday 9/6/84

The 1802 computer was powered up (on G8NEF's return) and the power consumption in various reset and load states checked. No success was made in loading the more complex of the on-board PROM loaders. Due to the reticence of the team to turn off the 2m beacon, the simpler loader was not tried.

Sunday 10/6.84

The loader was eventually booted and it transmitted its bit map requesting data. The format of this is shown below, and is similar to that used to load the longer programmes (including this bulletin) onto Oscar-9.

1xxxxxxxxxxxxxxxxcA2xxxxxxxxxxxxxxxxcB
4xxxxxxxxxxxxxxxxcD7xxxxxxxxxxxxoooooxH

The 'x' character here represents ASCII hex 60, and the line has been split above to fit this bulletin. The complex loader transmits continuously, unlike the Oscar-9 one, so the format was new to many international listeners. No packets of programme data were received by the loader once the configuration byte has been sent. This problem is currently unresolved and thought to be a problem associated with the use of the DCE in the command chain.

Finally on Sunday, a whole orbit telemetry collection and dump programme was loaded and run, starting at 21:30:05. See below for details of this format, which is also identical to that transmitted by Oscar-9 on Thursdays.

Monday 11/6/84

The whole orbit telemetry programme was re-run to collect a pass of data from a morning (north-south) orbit. This was started at 09:28:56. On Monday evening, an 1802 test programme to scan all memory-mapped I/O ports was run. It showed up no problems. A number of telemetry system speed checks were also carried out.

Tuesday 12/6/84

An 1802 programme to check the operation of the I/O ports was run successfully, as was another to check the output sent from the telecommand system to the 1802, enabling it to check on commands executed.

A programme to check the sun sensors using their digital port to the computer failed to initialis, properly due to insufficient conversion from the ground-test version. The data generated was undecodable, having been sent at the wrong speed.

Wednesday 13/6/84

A problem occurred which disabled the linking effect of the Digital Communications Experiment computer around the malfunctioning part of the telecommand system. Commanding using the 438MHz uplink restored full command after the cause was diagnosed.

A programme on the 1802 to time streams of commands was tested and used to switch the downlink multiplexers for various periods of time. This programme forms the spacecraft section of the overall system which will be used for the manual tests of the attitude control magnetorquing.

Thursday 14/6/84

The timer programme was used to turn the 145MHz beacon off, then on again a number of times. There were no obvious indications that the power-on current surge was causing any problems.

A whole-orbit telemetry recording programme run at 12:55:35 recorded no activity from the sun sensors in the current attitude, but the data was only available over the UK for a few minutes during the evening, with telemetry elsewhere.

Also on Thursday evening, the command timer programme was used to actively control the magnetorquers under computer control from the ground. A number of fifteen second bursts were 'fired' and the effects are still being analysed, although initial information is promising. The 3-axis magnetorquer coils on Oscar-11 make this particular manoeuvre much simpler than a similar one on Oscar-9.

Friday 15/6/84

More magnetorquing operations are in progress today.

OSCAR-11 ATTITUDE

Preliminary attitude control manoeuvres commenced on orbit 1535, 14th June, to reduce the transverse spacecraft spin and to nudge the z-axis up into the orbit plane ready for magnetic capture and subsequent gravity gradient boom deployment. The manoeuvres thus far have comprised commutated firings of the z-axis magnetorquer under on-board computer control initiated by ground command from real-time analysis of the spacecraft motion.

These manoeuvres will continue until the control algorithms have been verified, the magnetorquer effects calibrated and, hopefully, the spacecraft spin reduced. Oscar-11 is transmitting a selected number of telemetry channels to provide rapid sampling of navigation data and magnetorquer status. Using the dwell telemetry, channels 01, 02, 03 and 61 are transmitted in a one-line frame with the standard checksum, thus providing very fast data for ground analysis.

UoSAT DECODER

As mentioned above, the latest news on Oscar 11 was obtained by decoding the 1200 Baud ASC11 from Oscar 9's 145.825 MHz beacon.

The most widely used approch for decoding the 1200 Baud ASCII output from Oscar 9 and 11 is to use the 'UoSAT Decoder' described in the May 1983 issue of 'Wireless World'. The Equipment Supply Committee of the SA Division of the WIA has put together a kit for this decoder. The kit includes a predrilled PCB and all the necessary components. The decoder requires a 12V power supply and the output toggles between 0 and 12V. The cost of the kit is $40 plus $5 for package and postage. To order, send remittance to ESC, C -WIA SA Division, Box 1234, GPO, Adelaide, SA 5001.

Join a New WIA Member please!!!!

SATELLITE INFORMATION FOR PERIOD 28TH MARCH TO 24TH APRIL 1984

1. LAUNCHES

INTERNATIONAL NUMBER	NAME	NATION	DATE OF LAUNCH	PERIOD MINS	INITIAL DATA APOGEE KM	PERIGEE KM	INCL'N	REMARKS
1984-031A	COSMOS 1546	USSR	29 Mar	1448	36029	–	1.3	SI TM
1984-032A	SOYUZ T11	USSR	3 Apr	88.6	240	200	51.6	See below
1984-033A	COSMOS 1547	USSR	5 Apr	709	39340	615	62.8	SI TM
1984-034A	STS 41C	USA	6 Apr	91.4	464	218	28.5	See below
1984-034B	LDEF 1	USA	6 Apr	94.2	483	473	28.5	Launched from STS 41C
1984-035A	PRC 15	CHINA	8 Apr	–	–	–	–	–
1984-036A	COSMOS 1548	USSR	10 Apr	89.5	359	177	67.1	SI TM
1984-037A	NONE	–	14 Apr	-	–	–	–	–
1984-038A	PROGRESS 20	USSR	15 Apr	88.9	277	192	51.6	Auto Cargo Spacecraft
1984-039A	NONE	–	17 Apr	–	–	–	–	-
1984-040A	COSMOS 1549	USSR	19 Apr	90.2	394	208	72.9	SI TM
1984-041A	HORIZON T	USSR	22 Apr	–	–	–	–	–

SI TM – Scientific Instruments and Telemetry.

1984-032A Soyuz TII carried Cosmonauts Malyshev, Strekalov and Sharma.

1984-034A STS 41C carried astronauts Crippen, Scobee, Hart, Nelson and Van Hoften. FM downlink was on 2250 MHz.

2. RETURNS

During the period the following satellites re-entered or decayed:-

1969-006A	OSO5	2 Apr
1983-124A	COSMOS 1516	9 Apr
1983-126B	COSMOS 1518	8 Apr
1984-014A	SOYUZ T10	11 Apr
1984-017A	COSMOS 1537	1 Apr
1984-018A	PROGRESS 19	1 Apr
1984-020A	COSMOS 1539	9 Apr
1984-025A	COSMOS 1542	21 Mar
1984-026A	COSMOS 1543	5 Apr
1984-030A	COSMOS 1545	5 Apr
1984-034A	STS 41C	13 Apr

A total of 51 other objects also decayed. It has also been reported that 42 objects decayed in earlier periods in addition to those previously reported.

3. OPTICAL OBJECTS

The following are suitable for geophysical and air density studies:-

1967-104B	COSMOS 184	(Rocket)
1971-016A	COSMOS 398	
1977-011A	COSMOS 893	
1981-070C	DE1	(Rocket)

OSCAR-10 APOGEES AUGUST 1984

AUGUST	DAY #	ORBIT #	APOGEE UTC HHMM:SS	SATELLITE CO-ORDINATES LAT DEG	LON DEG	BEAM HEADINGS SYDNEY AZ DEG	EL DEG	ADELAIDE AZ DEG	EL DEG	PERTH AZ DEG	EL DEG
1	214	854	1456:32	23	232	336	21	349	23	14	26
2	215	856	1415:38	23	222	345	23	359	24	23	23
3	216	858	1334:45	23	213	355	25	9	24	32	19
4	217	860	1253:51	23	204	6	25	19	22	40	14
5	218	862	1212:58	23	194	16	23	28	18	48	8
6	219	864	1132:06	23	185	25	20	37	14	54	2
7	220	866	1051:12	23	175	34	16	44	9		
8	221	868	1010:19	23	166	42	12	51	3		
9	222	870	0929:25	23	156	49	6	57	–3		
10	223	872	0848:32	23	147	55	–0				
11	224										
12	225	877	1906:19	23	304					306	3
13	226	879	1825:25	23	294					312	9
14	227	881	1744:33	22	285			304	–2	319	15
15	228	883	1703:40	22	275			310	5	327	20
16	229	885	1622:46	22	266	307	3	317	10	336	24
17	230	887	1541:53	22	256	314	9	324	16	346	27
18	231	889	1500:59	22	247	321	15	333	20	357	28
19	232	891	1420:07	22	238	330	19	342	23	7	28
20	233	893	1339:14	22	228	339	23	352	25	18	26
21	234	895	1258:20	22	219	349	25	3	25	28	23
22	235	897	1217:27	22	209	359	26	13	24	36	18
23	236	899	1136:33	22	200	10	26	23	22	44	13
24	237	901	1055:41	22	191	20	24	32	18	51	7
25	238	903	1014:48	22	181	29	20	40	13	57	1
26	239	905	0933:54	22	172	38	16	48	8		
27	240	907	0853:01	22	162	45	10	54	2		
28	241	909	0812:07	22	153	52	5				
29	242	911	0731:15	21	144	58	–2				
30	243	914	1829:54	21	309					301	–1
31	244	916	1749:02	21	300					307	6

TELEMAIL

A significant amount of information contained in this column and on the AMSAT-Australia net is obtained from 'Telemail'.

'Telemail' is an electronic mailbox system used by AMSAT as a means of communication between AMSAT Area Co-ordinators and Control Stations.

A typical weekly session on 'Telemail' is included:

Welcome to GTE Telenet's TELEMAIL service!
TELEMAIL is a servicemark of GTE Telenet Communications Corporation. Copyright 1984.
Your last access was Sunday, 17 June, 1984 8:59 AM UTC
Today is Saturday, 23 Jun, 1984 5:12 AM UTC.
CHECK these bulletin boards:
AMSAT
No new mail.
Command? CHE AMSAT
Now using bulletin board.
Command? S SINCE 06/17
Bulletin Board contains: **See fig 1**
Command? R6
Posted: Fri 22 June, 1984 2:03 AM UTC Msg: DGIE-1825-5013
From: VRIP
To: AMSAT
Subj: New Ham-In-Space

We have recently learned of the appointment as a NASA space shuttle Payload Specialist of Dr Ron Parise, WA4SIR. Ron is an AMSAT member, resident of Silver Spring, Maryland and works at the Goddard SFC. He is a professional scientist and has been UO-9 co-ordinator for AMSAT in the past. Ron says he will be in training and mission 61F (1986) will be the earliest mission he will be able to fly.

Naturally Ron's appointment opens up additional possibilities for follow-on amateurs-in-space activities. AMSAT congratulates Ron on behalf of the amateur space programme.
(by WA2LQQ; source W3XO)

Command? CHE OPS
Now using bulletin board.
Command? S SINCE 06 17
Bulletin Board contains: **See fig 2**
Command? CHE ENG
Now using bulletin board.
Command? S SINCE 06 17
Nothing found in bulletin board.
Command? CHE PACSAT
Now using bulletin board.
Command? S SINCE 06 17
Nothing found in bulletin board.
Command? BYE
This mail session is now complete.
remote network: call cleared (c 0,d 45): dte originated
please log in: . . .

The contents of each weekly session on 'Telemail' are discussed on the AMSAT Australia net each Sunday night.

Please note that the WIA gives financial support to AMSAT Australia's use of 'Telemail'.

Next month's column sees Colin VK5HI return to the pen after his trip to Japan.

de Graham VK5AGR . . .

AR

Fig 1

No	Delivered	From	Subject	Lines
1	Jun 19 16:55	MNAKAYAMA	Mode-L, EME and Packet report fr	158
2	Jun 20 3:34	TCLARK	W3IWI KL7 QRV	11
3	Jun 20 12:25	JKING	UK TECHNICAL MEETING	16
4	Jun 21 9:59	MSWEETING	Oscar-11 telemetry equations	4
5	Jun 22 0:07	PKARN	IEEE Amateur Packet Radio Paper	6
6	Jun 22 2:03	VRIP	New Ham-In-Space	16

Fig 2

No	Delivered	From	Subject	Lines
1	Jun 19 7:05	PKARN	Keplerians	203
Command? CHE DOCS				
Now using bulletin board.				
Command? S SINCE 06/17				
Bulletin Board contains:				
No	Delivered	From	Subject	Lines
1	June 21 9:59	MSWEETING	Oscar-11 telemetry equations	264
2	Jun 22 0:07	PKARN	IEEE Amateur Packet Radio Paper	70
3	Jun 23 1:04	PKARN	Keplerians	203

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NATIONAL EMC ADVISORY SERVICE

Tony Tregale VK3QQ
FEDERAL EMC CO-ORDINATOR
38 Wattle Drive, Watsonia, Vic. 3087

*"Radiosensitive equipment (device)" means anything (other than a receiver or transmitter) any use or function of which is capable of being interfered with by electromagnetic energy . . . Radiocommunications Act No. 130.

INDUCTIVE INTERFERENCE, CROSS-MODULATION AND SWAMPING

We acknowledge the assistance of the Canadian Department of Communications with this article.

Much engineering skill has been applied to the task of modulating a wave with the content of a message wave but the techniques have an essential common feature; multiplication. The two waves are fed to a device wherein they are combined in such a manner that the instantaneous mathematical values of the output are determined, in part by the products of instantaneous values of the individual waves. The separate waves can also be present in more complex terms as well. This multiplication process takes place whenever one or more waves pass through a non-linear component. Non-linear components in circuits where we want them are fine. Not so those in places where we don't know about them, and don't want them, because they can cause interference which can be almost impossible to locate. Non-linear elements can be found almost anywhere — a rusty or corroded fence, rain water spouting, antenna tower guy wires, faulty electrical earth wires or even your own antenna system, to name but a few.

To clarify this somewhat, it will be necessary to discuss linearity and non-linearity of electronic components and elements. A component or element is described as linear if, when a varying voltage is applied and the current measured and plotted against the voltage with uniformly divided scales of current and voltage, the resulting graph is a straight line. If the line is not straight the element is called non-linear. If two voltage waves with different amplitude, frequency and phase parameters, especially frequency, be applied to a linear circuit element, the current wave flowing in that element can be described exclusively in terms of the sum of the two original waves. If the element is non-linear such will not be the case; the instantaneous values can be described only by including terms obtained by multiplying the instantaneous values of the waves. When such a wave is described in terms of individual component waves, there will be found, not only waves of the original frequencies, but additional waves with twice the frequency of each of the original waves and, in some cases, additional components whose frequencies are the sum or difference of the original frequencies, will be found as well. Passive elements such as resistors, capacitors and inductors are almost absolutely linear but amplifying or rectifying elements are inherently non-linear. In the case of rectifiers, the non-linearity is either acceptable or required; in amplifiers the non-linearity can be very largely compensated over a satisfactory operating range by highly developed engineering techniques. However, when an amplifier is subjected to excessive input ie a wave of amplitude exceeding its operating range, during a part of every cycle it will be driven into non-linearity and the modulation effects can result in unwanted signals affecting its behaviour. In some cases the effect is that an amplifier ceases to amplify; such an effect is known as *"BLOCKING"*. Modulation interference effects are classed into two modes, intermodulation and cross-modulation.

INTERMODULATION

The general case of application of two voltage waves of different parameters, (especially frequency) to a non-linear element producing current waves which can be described in terms not only of the two original frequencies but also of the sum and differences of those frequencies has been described above. If the frequency of one wave is very much higher than that of the other and if the amplifiers concerned are constructed to respond only to a band of frequencies centred on the higher frequency, the result will be the original higher frequency and the other frequencies which are the sum and difference of the two original frequencies. These waves are usually referred to as *"Side Bands"*. The process by which waves of new frequencies are produced when two waves enter a non-linear circuit component is known as intermodulation.

CROSS-MODULATION

As mentioned above the modulated wave can be described in terms of a number of separate waves. When two modulated voltages are applied to a non-linear element it can happen that among the other waves that will be produced, there will be one in which a desired carrier and its side bands are accompanied by another wave consisting of the same desired carrier but with side bands corresponding to an unwanted modulation. Such a case is called *"Cross-Modulation."* It is essentially a special case of intermodulaton.

SWAMPING

This is not exactly a modulation process in the sense that intermodulation and cross-modulation are. It depends however on non-linearity of amplifying devices and the term applies to a case where an excessive signal drives an amplifying element into non-linearity. Swamping usually takes one of the two forms:

(a) *If it occurs in the RF or IF stages, the stage can be disabled for the duration of the signal. If the disabling of the amplifier is continuous the observed effect will be a cessation of sound. If such disabling is intermittent, the wanted signal may appear intermittently during the times that the interference is absent.*

(b) *If it occurs in the audio frequency stages, the modulation of the interference signal may dominate the device's output.*

CONTROL OF MODULATION INTERFERENCE (TVI, BCI, AFI ETC).

Such interference can be controlled only by keeping unwanted signals out of amplifiers and other radio sensitive devices.* Once the intermodulation process has caused signals of unwanted modulation to accompany those with wanted modulation in the same frequency band, it is inherently impossible to remove them. In the case of two speech signals, the ear can sometimes listen to one instead of the other but in an electronic apparatus, except in cases of specialised signalling systems and circuit design, nothing can be done at this point. We must therefore concern ourselves with methods of preventing unwanted signals entering amplifiers and other radio sensitive devices. Most interference cases arise because the steps necessary to do this have not been taken during manufacture. Electronic systems and communications have expanded extremely rapidly in recent years, including the growth of medium and high power transmitting within residential areas. Manufacturers of domestic entertainment equipment and consumer products have, in the main, ignored the electromagnetic compatibility (EMC) aspect of their products. Thus much shielding and filtering necessary to provide a reasonable degree of immunity to unwanted electromagnetic energy has been omitted in most domestic electronic products in order to reduce costs and improve the manufacturers profit margin. The cost saving to the manufacturer is reflected in the misery experienced by the consumer, the inconvenience and disruption caused to the producer of legal and licensed electromagnetic energy and, the astronomical cost to the taxpayer of Department of Communications investigations.

The non-linear element/s causing modulation interference can be either external or internal to the affected equipment. External modulators can without doubt be the most difficult to locate. Internal (unwanted) modulators can be most difficult and costly to correct or eliminate subsequent to equipment design and manufacture.

EXTERNAL MODULATORS

The most common form of external modulating element consists of a corroded joint between two pieces of metal, especially two pieces of dissimilar metal. This is most likely to occur if one of the pieces of metal is copper or copper alloy such as bronze or brass. Copper forms two oxides of which one, cuprous oxide, along with copper or another metal, can be used to construct a rectifier. If such a joint occurs in an element of sufficient length to intercept a moderate amount of electromagnetic energy it can intermodulate two energy fields and re-radiate them as a third (unwanted) signal which can cause interference to, and apparently from, equipments otherwise unaffected by interference. Any corroded metal joint can cause interference because, although the non-linear element so formed would be of quality far lower than acceptable for construction of apparatus, its effect in producing interference can still be too great to be tolerable. Thus metal joints in clothes lines constructed with wire can be trouble-sources, or the metal flashing on a roof, a connection to a ground teminal system, a TV receiving antenna mast, accidental contact between metal parts in a house — especially if this is intermittent, and even your own transmitting antenna system, to name but a few.

When equipment suffers interference from an external modulator it is because the interfering signal has been rendered, to the apparatus, essentially indistinguishable from the desired signal. The desired (legal) signal generating device and the, normally, correctly operating apparatus (the victim) can both have excellent EMC factors, yet an interference problem can exist. The only remedy is to locate and eliminate the external modulator. Although this can be an extremely difficult task, the most difficult and controversial task is that of proving both pieces of "legal" equipment (Generator and Victim) are both trouble free.

INTERNAL MODULATION

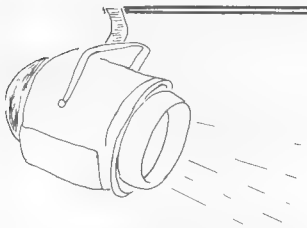
Internal modulation, unlike external modulation, cannot usually be remedied by elimination of a non-linear element, because, almost always, it is a component necessary for the correct working of the equipment. Interference results from unwanted signals reaching the necessary as well as the, often, unnecessary non-linear elements. Except for the obvious problems such as, bad solder joints, dirty pin connections etc, most of the answers are contained in design and construction, such as:—

(a) *prevent the unwanted electromagnetic energy signals from entering the equipment and or*

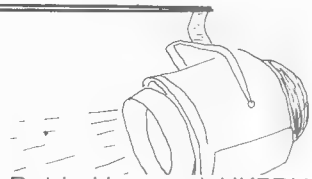
(b) *prevent such signals within the equipment itself from reaching the internal non-linear elements.*

Simple external reduction of electromagnetic energy signals entering the equipment is possible by reasonable effort. However, this method is quite often limited in effectiveness due to the poor basic design and construction of the equipment.

The only satisfactory and long term method of preventing interference from correctly operating and licensed electromagnetic energy generators to other electronic communications equipment and radio sensitive devices, such as domestic entertainment equipment and consumer products, is for manufacturers of these products to address themselves to EMC techniques and testing as a pre-requisite to design and construction. AD



SPOTLIGHT ON SWLing



Robin Harwood, VK7RH
5 Helen Street, Launceston, Tas 7250

LA VOZ DELL CID CONTINUES

In last month's column, I reported on being able to hear the anti-Castro clandestine "La Voz dell CID". The station has been operating around 10.040 MHz, broadcasting in Spanish with a variety of music. This ranges from Cuban dance music from the Forties right up to Rock and New Wave sounds of today. At the time, I surmised that the station was primarily intended for Cuba, but recent information gleaned from the Radio Netherlands "Media Network" programme indicates that the target audience is for Cuban military personnel in Angola and Ethiopia. Judging by that information, you would think that it would be patently obvious where the signals were emanating from. But propagation definitely rules out a South African site, for signals are coming in from 0530 UTC up till 1100 UTC and sometimes even later.

The programme asked its listeners to do some detective work to identify the transmitter location. One possible location mentioned is in Venezuela yet this can be discounted because of that country's involvement with the Contradora Group of Nations, seeking an easing of tensions in Central America. I somehow think LV dell CID could be in Central America in either Guatemala or Honduras. I do also believe that Florida can be ruled out as preparations are well advanced for the official Radio Marti to make an appearance on medium wave from the VOA facility in Marathon, Florida sometime this year.

LV dell CID commenced regular programmes on the first of June, according to "Media Network". It has been observed daily on its nominal frequency of 10.040 MHz but it fluctuates daily by ± 5 kHz. No effort has been noticed to jam or interfere with its transmissions, although the station itself sometimes fails to appear. I am unable to state whether it is because of propagational or operational difficulties, but I think the latter is more credible.

INTERNATIONAL STATIONS MOVE LOWER

With the low sunspot numbers and occasional sudden ionospheric disturbances, it is not surprising that more international stations are gravitating down to the lower frequencies. At the recent EDXC Conference at Stockholm, Sweden, concern was expressed at this increasing tendency for international or foreign services to use the tropical band frequencies for their programmes. This makes it difficult to hear many of the low-powered domestic stations in Africa and Latin America, some of whom are the sole broadcasters in their country. As the power levels of International or Foreign Service senders are usually high powered, while the majority of tropical band broadcasters mainly serve their local domestic audiences, it was felt that the local audiences also could suffer increased interference from higher powered transmitters, especially in the hours of darkness.

INTERESTING LATIN AMERICANS

As an example, I have been fortunate of late, hearing some interesting Latin American signals through international and foreign service senders. The Venezuelan Time Station YVTO on 6.100 MHz can be heard from 0630 up until 1030 UTC, when Asian signals dominate the channel. The transmitter is only 1 kilowatt and identifies in Spanish. Then there is a Bolivian station on 6.105.7 MHz almost lost in the splatter and heterodynes. Located in La Paz, the nation's capital, it broadcasts mainly Rock and Pop music, which is somewhat unusual for a Latin American broadcaster, yet it makes it easier for a DXer to make up a report, that is if you are a specialist in Pop or Rock music. The call of the station is Radio Panamerica and can be heard best on exalted carrier selective sideband (ECSS) which reduces the splatter and hets. Listen around 1100 UTC.

NEW TRANSMITTING SITE CONTINUES

Work is continuing on Radio Netherlands new transmitting site at Flevoland, which will gradually take over from the Lopik site, south of Utrecht. As Radio Netherlands has utilized Lopik for some time, the transmitting site has now come to the end of its working life. The new site is on the Flevo Polder from land reclaimed from the sea. In fact, the entire complex is six metres under sea level, thus ensuring very good ground conductivity.

The antenna design will ensure that all target areas will be reached yet conserving space. The largest towers will be for the 49 metre band, mainly for North American audiences. The Flevoland site will be able to cover all existing areas serviced by Lopik as well as the overseas relay sites at Bonaire and Madagascar, although these will continue to be used. Work on the antenna system has now been completed and testing and installation continues on the transmitters. Two of the four 500 kilowatt senders into a dummy load antenna has commenced and on-air tests may have already started as this goes to print. Naturally listeners of "Media Network" will be kept abreast of developments and invited to submit reception reports which will be verified with a special QSL card.

SEVENTH EDITION BOOKLIST

Incidentally Radio Netherlands has recently released the 7th edition of the Booklist. This contains information for SWL's and DXers who require further details pertaining to the hobby from magazines, books and tapes. They have also released another edition of the Receiver Shopping List. This has approximate details of prices and availability of shortwave receivers throughout the world. In some instances, a comprehensive technical review of a particular model may also be available. Both of these useful guides are free from Radio Netherlands.

By now, you may have noticed that Radio Netherlands has retimed their second release to Australia from 0830 UTC till 1030 UTC. This follows recent test transmissions on 9.650 MHz to test the suitability of both frequency and propagation from the Bonaire relay site in the Netherlands Antilles. This alteration will permit listeners in Western Australia to hear it much more easily as well as getting away from co-channel interference from the Far Eastern Broadcasting Company in Manilla, broadcasting in Russian from 0900. There will continue to be a 20 minute "Newsline" programme in English at 0830 on 9.715 MHz. The address of the station is:—

English Section,
Radio Netherlands,
PO Box 222,
1200 JG Hilversum,
Holland.

FEBC CHANGE FREQUENCY

Talking of FEBC International in Manilla, I mentioned last month that they had been drowned out by Radio Moscow World Service on their usual frequency of 21.515 MHz. Well. They now have shifted to 21.475 MHz where they are putting in quite good signals, considering that they are only using a 1 kilowatt transmitter! The target area is the Caroline Islands in the North Pacific.

MW DX

Recently a friend of mine purchased a National Loop antenna and pre-amplifier to listen for medium wave DX. Already he has obtained impressive results, hearing North American stations through the congested channels occupied by Australasian stations. Normally, we do not hear Americans in our local winter months, the period between October and April is the usual time. One station on 1.440 MHz was observed about 1000 UTC with Pops from the Sixties. As far as we can make out, it is a station in Napa, California yet the callsign does not tally with the list of stations we have occupying that channel. My friend is awaiting further confirmation from the station concerned, before he can claim the station.

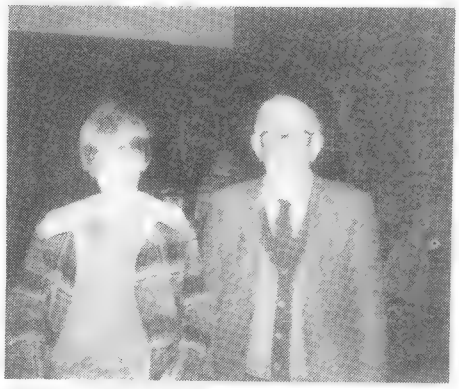
Fired up by my friend's achievements, I too have commenced listening for MW DX. Using my FRG 7 and G5RV antenna, I managed to copy a station on 600 kHz in Tiawan broadcasting to the Chinese mainland. Also Ho Chi Minh City (formerly Saigon) on 610 kHz in Vietnamese, Pyongyang in North Korea on 657 broadcasting in Korean and Hanoi on 680 kHz in Vietnamese but separate from the 610 kHz outlet. With the exception of Ho Chi Minh City, all were utilizing high powered senders of 500 kW or more. These were logged around 1430 UTC.

CONTEST TIME

August naturally enough reminds us that it is "Remembrance Day Contest" time once more. Elsewhere you will find details regarding the rules pertaining to the Contest. I wish you well in the 24 hour period from 0800 on the 12th of August to 0759 on the 13th. Whatever your participation will be, whether it is assisting as log keeper for an amateur station, or as a SWL entry, have good fun and remember to keep your logs neat and tidy!

Well, that is all for this month. Until next time, the best of 73 and good DXing! — Robin VK7RH. AR

MOORABBIN & DISTRICT RADIO CLUB



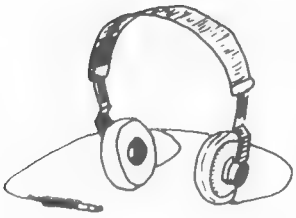
TOO YOUNG OR TOO OLD??? NEVER . . .

Anyone wondering what age limit there is to follow the Novice classes at the Moorabbin and District Radio Club will find the answer in the outcome of recent DOC examinations.

In the photograph you find Michael McCaffrey who has just turned 13 and Vic Gay VK3VGY who celebrated his 75th birthday in July.

Although we don't know Michael's callsign at this stage, we congratulate Michael, as the youngest, and Vic, as the oldest member of the very successful classes, who passed the February Novice exams.

Contributed by J Hill VK3WZ AR



LISTENING AROUND

Joe Baker, VK2BJX
Box 2121, Mildura, Vic 3500

Imagine yourself having just left Adelaide Airport, winging your way high over water for an ETA at Port Lincoln. I've never been there, but that walkie-talkie octogenarian and "Wizard Of Oz" Bert Shire VK3OZ, now of Mildura, certainly has, and a few weeks ago he told me about it.

You see, our Bert hardly ever goes anywhere without his portable 2 metre rig, and high over the deep blue water, about 12,000 feet high, Bert decided to put out a CQ to see what would happen. Bert said just about everybody in South Australia and beyond wanted to work an aeronautical mobile, but just as he was about to have some fun, Bert sighted a hostess headed right for his seat. *"You can't do that, there 'ere"* she said ordering Bert to cease operations. Bert was a little dismayed of course but any type of electronic equipment capable of generating RF can interfere with an aircraft's navigation equipment.

All of which reminds me of the first time I ventured to take a tape recorder aboard an aircraft. I had bought the cheap recorder in Sydney about 1965 when I had to visit there for medical checks, etc following a road accident in 1963. Like a kid with a new toy I was recording just about every sound that a noisy city can conjure up, and at the airport it was the jet planes. *(So help me, who wants to hear aircraft noises?)* I switched the recorder on before entering the aircraft, so as not to miss any of those decibels, and in due course was conducted to my appointed seat by the hostess. On spotting the recorder she asked if I had obtained permission to take the recorder aboard. I told her I didn't think it was necessary.

She then retired to the cockpit to check with the pilots, and then told me that the pilots wanted to see the recorder.

On returning the recorder to me she said that the pilots said that while they allowed me to use it, I must not attempt to use it while the plane was airborne. I should imagine that the reason why I was asked not to use the recorder while in flight, was because tape recorders (having an oscillator) can radiate RF just like Bert's 2 metre rig.

I believe that for the same reasons passengers who might try listening to pocket size transistor radios might not be too welcome aboard aircraft either. So – don't take a chance – ask if you can bring it along.

I'm painfully conscious of the fact that I've missed several deadlines in getting copy to AR, but you may have read in the March issue of my earlier experiences in using my FT208 aboard the Spencer Street to Mildura Vinelander train. Since then I've done another trip and while the Vinelander actually *left on time* on this occasion, some happenings may be worth noting. As soon as the train was moving, a conductor came through the carriages handing out pre-printed notices informing all that due to *long-standing electrical problems with the microwave oven* in the buffet car, hot meals were a non-event. That didn't worry me, because I had a thermos flask with me and plenty of things to eat. If the failure of the microwave ovens might be thought of as Catastrophe No 1, Catastrophe No 2 occured when we were almost into Rockbank station.

The super-colossal diesel electric engine *conked out*, and we came to an abrupt halt near a level crossing. The engineers did a bit of fiddling, the train gave a shake and managed to drag itself into sleepy Rockbank station, after which harrassed officials were sighted running up and down the platform. The passengers were given no explanation for the subsequent two hour delay at Rockbank but rumour had it that a replacement engine was on its way from Melbourne.

To while away the time, I decided to see what I could whistle up on my 2 metre FT208. I figured that the Macedon repeater was probably nearest to Rockbank, so from inside the carriage, I put out a CQ and back came John VK3ABQ from Surrey Hills whom I had earlier tried to contact by telephone without success (for John would like to meet me). No sooner had I started to tell John that I was in a stalled railway train, than the conductor decended on me just like Bert's air hostess.

Like Bert's hostess, he also said "You can't do that there ere – you're interfering with the train's communications system."

Here's another aeronautical story that might be of interest – one with an unusual angle, I think. Some months ago, in the wee small hours of the morning and long after the Cocktail Net had gone to bed, through the static I could hear a faint voice calling me from VK4. He was "aeronautical mobile" and the time was about 4 am. When contact was established, I asked what kind of aeronautical mobile he was, and he replied that he was a TAXI plane on a run between Cunnamulla and Alice Springs. I asked what equipment he was using, and while I'm not sure what gear he had inside the plane, he was using an old-style trailing wire antenna. The purpose of the trip was to collect *blood samples* from Northern Territory cattle for delivery to a government laboratory for pathological tests.

One never knows who you may hear on 80 metres in the wee small hours after the Cocktailers have departed.

Early Tuesday morning 3rd April, with Eddie VK5ARL, I had a rare contact with white stick operator Frank Bridgewater VK2ZI whom I first met in my Broken Hill days about 1952. Frank doesn't often come up on 80, but sometimes has been heard with AMSAT when it's on frequency. With Frank's permission, I taped his transmission so that I could include some of it here. Frank's very keen on satellite working, and to Eddie he said *"I used to work Oscar 7 when she was alive, but Oscar 10 is a real beauty and you don't need a full ticket to use it either – you can do it on a limited call. At the moment it's out of circulation for my QTH until next Thursday and then it will come back in again . . . . I've worked over twenty European countries (via satellite) and a few South Africans, the Middle East, Russia, Japanese, and Canadians and Americans by the dozen. I'm only using 40 watts to Go Up the Hill on 435.1 and* I've really had a ball. *There's plenty of room on 14MHz and there are plenty of stations about* – it's a different world altogether – *I can strongly recommend it.*

"I've been playing with satellite working for a long time and I've put in a new setup for Oscar 10 – and it's armchair copy nearly all of the time. I have to put a set of earphones on only once in a blue moon."

On the subject of amplifiers and PA systems Frank said that in years past he had a public address business in Sydney but was now more interested in satellite tracking.

Frank says that articles from AR can be obtained on the Talking Book Service. *"I've heard your column many times and noted your comments and – very good, Joe – very good. We get the entire magazine read by Tom Walsh, an expert from the Royal Victorian Blind Society. It's nice to know what's going on, and he (Tom Walsh)* even reads all the advertisements *and everything else and I'm afraid that when I read through these things – I note all the beautiful bits and pieces I'd like to buy.* But to be quite honest with you there's nothing that I really need to buy *for I've got a very satisfactory set up here.*

"I wouldn't swap this 101Z with the talking readout on it *for anything. Of course I've got an FT200 sitting alongside it and I use that mostly for running the 70cm transverter to go Up the Hill for the satellite and then I've got the metro micro module converter that feeds into the 101Z. Got a lot of micro-module gear preamps and video amps. Oh, I have a lot of fun but your column Joe, that's a good thing – keep it up. I thank you boys for the invitation to join you – I don't know when it will next be."*

Well, Frank, I hope it will be soon and that disabled people will take courage from you in the persuance of this our most wonderful hobby. You see, I also have a disability.

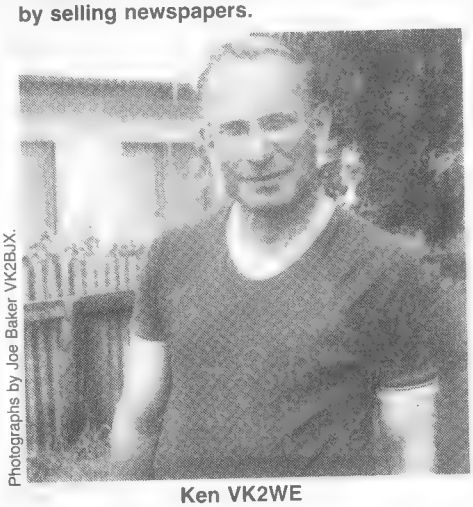
VALE

It is with deep regret that I record the passing of Jack ZL1LK of Orewa, near Auckland, New Zealand. First news of Jack's death came from SWL Charles Bushell, of Northmead an outer Sydney suburb. Charles told me that Jack's death occurred on 20 March after a prolonged illness. Charles heard the news while listening to a ZL Net. I have since been in touch with some ZLs and confirmed the news. Jack's favourite saying before he signed off with us was *"Have a Happy Day."* Jack promised several times to send me a photo of himself but never got around to doing it. Jack's voice will be sadly missed by all who spoke with him.

73 to all from Joe, VK2BJX. AR

FROM JOE'S PHOTO ALBUM

Roger VK3KET (right) and son Jamie VK3NWA. Jamie raised money to buy his rig by selling newspapers.



Photographs by Joe Baker VK2BJX.

Ken VK2WE

HF VHF UHF MOBILE & BASE ANTENNAS

AMATEUR & COMMERCIAL HELICAL MOBILE ANTENNAS

From ANTENNA SCIENCE & ENGINEERING

The ASE range of HF Helical Mobile antennas is designed to give you a signal to be proud of and get it further out because each antenna uses every known method to increase mobile efficiency.

- ★ Thick wire (0.6mm) to decrease resistive losses.
- ★ Top winding — to increase current-length product
- ★ Top loading — large brass mass to act as capacity hat
- ★ Parallel former — allows top winding to be smaller in length producing a longer radiating part

In addition you get top quality chrome plating 3/16 stainless steel grub screw and adjustable sliding tuning tip and Allen key. PLUS extra thick heat shrink to minimize impact trauma.

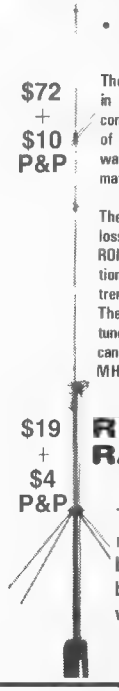
Super G-80/15/10 Triband helical covering 80, 15 and 10 meters, overall height on 80 meter is 7 feet. **$76 + P&P**
G-80 80 meter heavy duty helical, 6 feet long. **$49 + P&P**
G40 to G10 40, 20, 15 and 10 meter helicals, 5 feet long. **$43 + P&P**
G-BM Stainless Steel bumper mount to suit the ASE Helicals, female 3/8 x 24 thread. **$31 + P&P**

2 METRE BASE ANTENNA

.... 9dBi gain

RINGO

$72 + $10 P&P



The GFS 2 metre Ringo is built in Australia for Australian conditions. Its overall height of approximately 9ft, 3x5/8 wave phasing and gamma ring matching give it a gain of 9dBi.

The use of a low dielectric loss insulation, such as DELRON, for the matching sections help to provide an extremely efficient radiator.

The Ringo is supplied pretuned for 144-148 MHz but can be easily reset to any 4 MHz section from 130 to 180 MHz.

$19 + $4 P&P

RK-1 RADIAL KIT

... 1.5 dB more

The RK-1 decoupling radial kit shown below the Ringo has been designed to provide it with an extra 1.5 dB gain.

A MUST FOR ANY KEEN FM OPERATOR

5 BAND HF VERTICAL

HF-5DX

FULLY SELF SUPPORTING INCLUDING LOADED RADIALS.

$200 + $12 P&P

80, 40, 20, 15, 10 metres

The HF-5DX is a fully self supporting 5 band trapped vertical antenna. It's unique in that it incorporates shortened fully loaded self supporting radials.

Total length of the HF-5DX is 6.6 metres, weight is 4.7 kg and power rating is 150 Watts PEP.

NO UNSIGHTLY WIRE RADIALS OR GUY WIRES

UM PRODUCTS

80, 40, 20 METRE

TRAPPED DIPOLE

ONLY 60FT LONG

$100 + $8 P&P

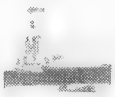
A-248D

The UM A-2480 Trapped dipole is supplied complete with traps and centre insulators, as well as approximately 60 feet of heavy gauge insulated copper wire. Maximum power handling is 500 Watts PEP

IDEAL HF ANTENNA FOR SMALL YARDS

Maldol ANTENNA

$60 + $6 P&P OSCAR 2ND



The new OSCAR 2ND 7/8 wave gutter mount mobile 2mx antenna provides an extremely high 4.5 dB gain. The exclusive tilt back mount ensures its height of 1.75 metres presents no problems when garaging your car.

The OSCAR 2ND is supplied ready to go with gutter mount, cable and connector. If fringe area operation is not required the 2ND may be screwed off and replaced by an F1E, a small rubber duck helical.

2MX DUCKY

with PL-259 BASE

F-1E HELICAL

Use this short rubber duck as a substitute for your 5/8 or 7/8 2MX mobile antenna when a low profile antenna is needed. **$16 + $4 P&P**

NO MORE BROKEN WHIPS

VHF MOBILE ANTENNAS

M-25 5/8 wave whip and base for 140 to 180 MHz, 4.5 dB gain.
M-22 ¼ wave whip and base for 140 to 180 MHz, unity gain
MB Base only to suit M series antennas
M-GM Heavy duty gutter mount and base to suit M series antennas
G-SS Heavy duty gutter mount only

BALUNS, ANTENNA SWITCHES, EGG INSULATORS, MORSE KEYS

TYPE E-GG

PORCELAIN INSULATORS **$1 + P&P**

Heavy duty porcelain egg insulators designed for many applications both on guy wires and antennas. They have a far superior life than plastic types because they are unaffected by the suns ultraviolet rays.

EJC No 2

ELECTRICAL JOINT COMPOUND **$9 + $3 P&P**

Dulmison EJC No 2 is a special compound designed to greatly extend the life of aluminium to aluminium and aluminium to copper joints.

For a long service life all base antennas should have EJC No 2 in their joints. Comes in a 227 gram tube.

DP-BU5

$35 + P&P

1:1 BALUN

1.5 KW
3-40 MHz
50 OHMS

IDEAL FOR DIPOLES & BEAMS

MT-1

$16 + $4 P&P

HELICAL MATCHING TRANSFORMER

The MT-1 helical antenna matching transformer will match the low feed impedence of short HF helicals up to 52 Ohms. This provides higher power transfer from rig to antenna. 13, 18 and 23 Ohms up to 52.

590-G

$59 + $4 P&P

CO-AXIAL 5 POSITION

Made by B & W of the USA the 590-G 5 position coax switch is rated at 2Kw up to 150 MHz. All unused imputs are grounded for lightning protection. Input and output connections are on the rear.

HI-MOUND MORSE KEYS

HIGH QUALITY KEYS

HK-710 Hand key, silver contacts, weight 1.3 Kg with a heavy marble base and ball race pivots. **$84 + P&P**

HK-710

HK-706 Hand key, silver contacts, 0.45 Kg economy key. **$33 + P&P**

HK-706

HK-704 Hand key, silver contacts, 0.7 Kg. **$44 + P&P**

HK-702 Hand key, silver contacts, medium quality with marble base, 1.0 Kg. **$65 + P&P**

HK-702

AUSTRALIAN DISTRIBUTOR

GFS ELECTRONIC IMPORTS

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AWARDS

Hugh Spence, VK6FS
FEDERAL AWARDS MANAGER
44 Mosaic Street, Shelley, WA 6155

It does not seem as if thirty issues have passed since I first put pen to paper for this column, but time really does fly. Changes in work and personal circumstances have led me to the decision that now is the time that I should pass on the Award Managers job to someone else. We are fortunate that a volunteer of the calibre of Hugh Spence, VK6FS has agreed to take on the task. Hugh brings to this position a wealth of DX and award expertise and I know that members will be well served by him. May I take this opportunity to thank all of you who have supported me in the past and ask you to continue that support to Hugh. Perhaps with a little more time for the operating side of amateur radio I will be able to say "see you in the pile ups", 73 es DX de Mike VK6HD.

Greetings and salutations. As you see from the heading of this column the Award's Manager's hat has changed hands, or should I say heads

I must pay tribute to the previous occupants of this position, especially my friends VK5WV and VK6HD I sincerely hope I can carry on with their good work. It will certainly not be my intention to try and change everything they have set up.

My association with the VK0HI/VK0CW logs has given me a great insight into the tricks that some people will try on in order to gain a QSL card from a new country. In particular, SWLs seem to be the worst. This observation was made after checking innumerable SWL cards reporting hearing Heard Island work stations that were not even in the log Some SWLs would give a list of four or five callsigns and only one would be in the log so this would indicate that the particular SWL was listening to the pile-up and not the DX station. I now feel I know most of the answers so I hope no one tries to sell me the "Brooklyn Bridge" in order to try and gain a certificate

It was reported in a recent issue of "Worldradio" from the USA that two JA stations made the last Malpelo expedition logs at 0200 UTC on 7 MHz when there was just no possibility in the world for Japan to have propagation to Malpelo, it was assumed they must have had friends in the US who used their calls. One of the JAs even sent for his card

For this first contribution I think it would be appropriate to just re-state the general conditions for all WIA awards for the benefit of applicants, and in particular the amateurs who will check their cards against the lists under General Rule 1.5.

GENERAL RULES FOR ALL WIA AWARDS.

VERIFICATIONS.

1.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence, from the station contacted, showing that two-way contacts have taken place.

1.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

1.3 Each verification must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

1.4 A check list must accompany every application setting out the following details:

(a) Applicant's name and callsign and whether a member of the WIA or not.

(b) Where applicable, the date of change of callsign(s) (eg When upgrading from Novice call to full call).

(c) Details of each contact as required by Rule 1.3. (It would help if this list could be in the order as set out in the DX Countries List.)

(d) The applicant's location at the time of each contact if land portable/land mobile operation is involved.

(e) The callsign of the station worked.

(f) Any relevant details of any contact about which some doubt might exist.

1.5 In lieu of forwarding QSL cards or other written evidence as set out in Rules 1 1 to 1.4 above, a list giving the details set out in Rule 1.3, certified by the Awards Manager, Secretary or Council Member of an affiliated Society, or two licensed amateurs known to the applicant, should accompany each application.

Every person certifying an award application must sign the following declaration:

I have checked the (insert number in words) QSLs submitted by (insert call sign) and certify that the details attached correspond with the verifications inspected by me. Signed .....

Full details of all WIA Awards and method of application are set out in the 1983/84 Call Book (and the 1984/85 due in September) and the above rules are given as a reminder of just how careful one must be in checking and certifying lists for applicants.

In future issues details will be given of some more of the awards that are available from overseas countries. Many of these overseas countries are unlike the USA which requires an amateur to send his precious QSLs for physical checking.

WILDCAT AWARD

This award was established by the East Gippsland and Eastern Zones of the Victorian Division of the WIA, to promote amateur radio and goodwill with overseas countries and to present Gippsland as a thriving industrial and primary production area with tourist attractions and a go-ahead group of radio amateurs.

The award is presented with the main colour scheme blue on a white base. The cameo-type inserts at each corner depict Gippsland's various resources, including industrial, primary and natural. The centre structure shows an oil rig over water. Size is 26cm x 21cm.

REQUIREMENTS

The Wildcat Award is available to non-VK operators who contact five stations operating in Gippsland and who are normally resident in the area but may be at a portable location. Any band, any mode. Claimants must send log extract and three IRCs to QTH below.

The award is also available for confirmed contacts with five VHF stations operating within Gippsland, who are normally resident in the area but may be at a portable location. The distance between the station and claimant must exceed 80 km. Repeater and net frequency contacts will NOT be recognized. Send log extract and three 30 cent stamps to Awards Manager: *David Scott VK3DY, Awards Manager, Wildcat Award, 174 Johnson Street, Maffra, Vic. 3860.*

KEITH ROGET MEMORIAL NATIONAL PARKS

A former Victorian Division President, Keith Roget, originally suggested an award to encourage amateur radio activity from Victoria's National Parks. This award was popular in the early 1970s. Following the untimely death of Keith Roget, the Victorian Divisional Council was kindly given permission by his widow to re-name the award in his memory. The award requirements now reflect the increase in the number of National Parks in Victoria.

OBJECTIVES: To encourage activity from Victoria's 31 National Parks.

REQUIREMENTS: Any radio amateur who can provide proof of having worked from or to a Victorian National

Park can include that contact in their claim. There is no time limit to make the contacts.

Victorian radio amateurs: Those living in the VK3 call area must have worked from and or to sixteen Victorian National Parks. All VK (except VK3), P29 and ZL radio amateurs: Must have worked radio amateurs operating from five Victorian National Parks.

Overseas radio amateurs (other than P29 and ZL): Must have worked radio amateurs operating from 2 Victorian National Parks.

SWL's The same rules apply as above on a heard and confirmed basis.

Holders of the original National Parks award only have to obtain sufficient *additional* parks to bring their total to the number of contacts listed above.

VERIFICATION: Certified log extracts or QSL's are to be submitted with each claim showing that two way contacts have taken place. Claims for the award together with $2(AUST) or equivalent should be made to: *National Parks Award Manager, Wireless Institute, Victorian Division, 412 Brunswick Street, Fitzroy Vic 3065.*

NATIONAL PARKS RECOGNISED FOR THE "KEITH ROGET MEMORIAL NATIONAL PARKS AWARD".

METROPOLITAN
Brisbane Ranges
Churchill
Ferntree Gully
King Lake
Organ Pipes

WEST GIPPSLAND
Baw Baw
Bulga
Morwell
Tarra Valley
Wilsons Promontory
Wonmangatta—Moroka

NORTH WEST VICTORIA
Grampians
Hattah—Kulkyne
Little Desert
Wyperfeld

EAST GIPPSLAND
Alfred
Croajingolong
Glenaladale
The Lakes
Lind
Snowy River
Tingaringy

NORTH EAST VICTORIA
Bogong
Burrowa—Pine Mountain
Fraser
Mt Buffalo

SOUTH WEST VICTORIA
Lower Glenelg
Mt Eccles
Mt Richmond
Otway
Port Campbell

73 till next time, good DX from Hugh, VK6 Flying Saucers

AR

ATN ANTENNAS

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- T2FD WIDE BAND HF OMNI

WRITE FOR LATEST CATALOGUE

ATN ANTENNAS

56 CAMPBELL ST. BIRCHIP 3483
PHONE (054) 92 2224

Radio Amateur Old Timers Club

The second QSO Party of 1984 for members of the Australian and New Zealand Old Timers Clubs will be held on Monday 13th August on 40 metres, 0800 to 1100 UTC. Centre frequencies CW 7.050, SSB 7.120 MHz.

Members will exchange:
Club membership number VK0 prefixed by A ZLs by Z
Year of first licence
Name
Age ie A256 1951 Bill 49

ENTRIES

Claimed scores showing mode CW, SSB or CW SSB, number of QSOs and multiplier (call areas worked, VK/ZL/foreign members) should be forwarded to *John TUTTON VK3ZC, 31 Denham Street, Hawthorn Vic 3122* as soon as possible after the conclusion of the Party.

All amateurs who have been licensed for a period of 25 years or more are eligible to join the Radio Amateur Old Timers Club.

A self addressed stamped envelope (9x4) to the Secretary, Harry Cliff VK3HC, PO Box 50, Point Lonsdale, Vic 3225 will bring you a membership application form.

RESULTS OF 20 METRE PARTY, MARCH 1984

Skip was a bit troublesome, but the 39 members who took part had an enjoyable three hours. Of the 39, 24 were VKs and 15 ZLs from whom 20 and 12 logs respectively were received.

Call	Mode	QSOs	Mult	Total
VK4AIX	CW SSB	24	9	1080
VK5CO	SSB	21	10	1050
VK3JA	CW SSB	19	9	855
VK3VF	CW SSB	18	8	720
VK4BG	CW SSB	20	7	700
VK2AKE	CW SSB	17	8	680
VK3GI	SSB	14	9	630
VK7AL	CW SSB	12	9	540
VK4CJ	CW	16	6	480
VK3KS	CW	13	6	390
VK3XB	CW	13	6	390
VK3LC	CW	16	4	320
VK7RY	CW SSB	10	6	300
VK3AMD	CW SSB	10	5	250
VK3ZC	CW	11	4	220
VK3XF	CW SSB	10	4	200
VK3YW	CW SSB	8	5	200
VK4OX	SSB	9	4	180
VK3NA	CW	6	4	120
VK7JU	SSB	2	2	20
ZL2AB		15	8	600
ZL3BJ		15	7	525
ZL3AV		14	6	420
ZL1VX		13	6	390
ZL2US		10	6	300
ZL1MT		12	4	240
ZL3AY		8	6	240
ZL2AZ		8	3	120
ZL1PB		7	3	105
ZL2AKY		5	4	100
ZL4ID		4	3	60
ZL2AFH		3	2	30

AR

QSP

PACKET RADIO

Packet Radio is another area of rapid growth within amateur radio which is gaining popularity in the UK. Packet data exchange between two individual amateurs is quite legal. As such, it is just another form of data transmission which is quite permissible under the terms of the UK licence. The Society's initial confusion was because of the third party message facilities associated with packet radio at present being used by many amateurs in North America. Needless to say, as with any other form of data transmission, indentification of transmissions should always comply with UK licence regulations.

from RSGB News Bulletin No 7

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EMERGENCY CONFUSION

"Confession being good for the soul," I would like to relate the following story . . .

Approximately 4 pm on the 30th May, my wife and I were mobile on the Ipswich bypass heading for an appointment when we came over a slight rise in the road to be confronted by a petrol tanker from which, out of the engine and from underneath, a large quantity of smoke was billowing.

A car had pulled up behind the tanker and men were frantically running around in the vicinity of the engine.

Being very much aware of the prominent sign plastered on petrol tankers to the effect that in case of fire phone 000 for Police and/or Fire Brigade and realising that I would be of very little use in fighting a fire, I opted for calling the fire brigade.

Jack VK4IZ responded to my CQ — I accurately pin-pointed the position of the tanker — Jack phoned the brigade — I continued on to keep my appointment.

After proceding on for a few kilometres, Geoff VK4AG (the Brisbane North Co-Ordinator of WICEN) kindly suggested my place was back at the fire where my assistance, via amateur radio on the Brisbane Repeater, could be of tremendous importance. By this time, the adrenalin had settled down and I realised the utter logic of his suggestion — strange that it took so long for this course of action to occur to me because as an ex-honorary ambulance bearer, I invariably stop at an accident to offer what help I can.

Where did I go wrong? I overlooked the facilities. We all have to use our rigs to best advantage in the case of an emergency — I wish I had taken time to read those WICEN articles!

Yes, I returned to the area — there was a pinky white powder all over the road — out of a fire extinguisher — but the tanker had gone!

Imagine how I felt when the Fire Brigade arrived about a minute later — I heard them coming as I pulled up and put my hazard lights on!! The crew were most understanding and they *used their radio* to correct the situation back at headquarters.

As for me — I learnt a very valuable lesson and from the follow up comments on the repeater, I take it some others of us did also — eh Don!, and I am so glad I went back — otherwise the incident may have been regarded as a hoax call.

What should I have done?

First and foremost: stayed at the site of the emergency and maintained a radio link between the scene and the fire brigade via Jack and or others responding to my call — if only I had taken a greater interest in accepted WICEN procedures!!

So, if you come across an emergency and put out a call for Police, Ambulance or Fire Brigade, *stay at the spot* and use your radio to good advantage.

Contributed by GB Taylor VK4AGB.

CONTESTS

Ian Hunt VK5QX
FEDERAL CONTEST MANAGER

P.O. Box 1234, GPO, Adelaide, SA 5001.

CONTEST CALENDAR

AUGUST
6th *Illinois QSO Party.*
11-12th *DARC European CW.*
18-19th *SARTG RTTY Contest.*
Remembrance Day Contest. (Rules July '84 AR)
25-26th *All Asian CW.*
SEPTEMBER
8-9th *DARC European Phone.*
15-16th *VK Novice Contest. (Rules this issue).*
29-30th *Delta QSO Party.*

VK NOVICE CONTEST

As seen by the Contest Calendar above, the VK Novice Contest is here again. I have entered this contest in both the phone and CW sections in the past and have found it most enjoyable, if a little on the slow side. This latter problem could be overcome by some more activity by all concerned, both Novice and Full call holders. I can understand that this might be expecting a bit much coming right on the heels of the Remembrance Day Contest, however I have commented on the possibility of changing the dates of some of our contests around so as to obviate a number of problems. Again I might ask you to let me know your ideas on this and any other contest related subjects.

The rules for this contest seem to me to be pretty straightforward and I do not think that there need be any change at this stage from last year's rules, with a few minor exceptions. I cannot see how this contest can be very much improved from its present format. Last year's entry of approximately 61 stations was a big improvement on that of 1982 when only 39 operators were listed as having competed.

RULES

CONTEST PERIOD: From 0800 UTC 15th September 1984 to 0759 UTC 16th September 1984.

OBJECTS OF THE CONTEST: To encourage contest operation of amateur radio stations in Australia, New Zealand and Papua-New Guinea with special emphasis on contacts with Novice and Radio Club stations.

STATIONS ELIGIBLE: Only stations in VK, ZL and P2 call areas may enter. No stations outside these areas are permitted to be worked or entered in a log for the purposes of this contest. Except for Radio Clubs no multi-operator working is allowed. Stations in the same call area may contact each other as well as contacting stations in other call areas.

CONTEST BANDS: All operation must be confined to within the Novice frequency allocations in the 10, 15 and 80 metre bands. No crossband operation is permitted.

MODES OF OPERATION: Only phone or CW may be used. In the CW Mode operation must not exceed a speed of TEN words per minute. This is to encourage the use of CW by all operators and to allow improvement in this mode by those operators who do not usually practice same.

CONTEST SECTIONS: (a) PHONE — Novice/Full Call. (b) CW — Novice/Full Call. (c) Listeners.

SCORING: *Transmitting Entrants.* For contacts with a Novice Station — five points. For contacts with a Club Station — ten points. For contacts with a Full Call station — two points.

Listener Entrants. For Novice/Novice contact — five points. Novice/Full Call contacts — two points. Full Call/Full Call contacts — two points. Any contact with a Club Station — 10 points.

CALL PROCEDURE: For phone operation call 'CQ Novice Contest' and for CW operation call 'CQ N'.

CONTACTS: Any station may be contacted only once per mode per band.

NUMBER EXCHANGE: On phone stations must exchange a serial number comprising an RS report followed by three figures. These figures must commence with 001 and increase sequentially by 1 for each contact up to 999. If 999 is reached the serial number is to revert back to 001 and the sequence recommenced. CW stations must exchange a serial number comprising an RST report followed by three figures on the same basis as above. Radio Club Stations must add the letter 'C' following the serial number.

LOG ENTRIES: Each log sheet should be laid out such as to provide the following columns in the order given as follows: the Date/UTC Time. Band. Mode. Station Contacted. Serial Number Sent. Serial Number Received. Claimed Score. Total Claimed Score should be shown at the bottom of the Claimed Score column for each page.

FRONT SHEET: A front sheet must be attached to each log entered and must carry the following information:—

Name of operator. Address. Call Sign. Section Entered. Claimed Score.

Declaration: This sheet must also carry a Declaration which states that *"I hereby certify that I have operated within the Rules and Spirit of the Contest."* Each entry must carry the signature of the licensed operator of the station and be dated accordingly. In the case of Club Stations the entry must be signed by a responsible Officer of the Club Committee or a licensed operator delegated by the Committee to do so. In the case of multi-operator stations the call signs of participating operators must also be shown on the front sheet.

REGULATIONS: All stations participating in the contest must be operated within the terms of the station licence and applicable regulations.

SUBMISSION OF ENTRIES: Logs are to be forwarded to the Federal Contest Manager, C/O PO Box 1234, GPO Adelaide, SA, 5001. Envelopes to be endorsed 'Novice Contest' on the front outside. Entries must be postmarked no later than 16th October 1984 and be received no later than 29th October 1984. Any entries received later than this date may be used as Check Logs only.

CERTIFICATES: Certificates will be awarded to the highest scoring Novice, Full Call, Club Station and Listener entry for both phone and CW Sections for each call area and to any other entrant where meritorious operation has been carried out in the opinion of the Contest Manager.

TROPHY: The "Keith Howard VK2AKX Trophy" will be awarded to the NOVICE entrant with the highest aggregate score obtained from both the phone and CW Sections of the contest. The trophy will be held by the winner for a period of twelve months. Should two or more aggregate scores be equal a decision will be made based on a count back as to the greater number of Novice stations listed in each log entry. Should such a count also be equal the logs will be placed before a committee which will exercise a vote as to the neatest and most meritorious entry.

DISQUALIFICATION: See general disqualification rules as printed in detail elsewhere in this issue of the Contest notes.

Any station observed during the Contest as constantly departing from the generally accepted codes of operating ethics may also be disqualified.

CONTEST DISQUALIFICATION CRITERIA

It has been decided that a standardised approach will be taken to the disqualification of logs entered in all of the contests which come under the direct control of the Federal Contest Manager appointed by Federal Executive. These disqualification criteria are based on those used by the ARRL in administering their contests. A perusal of these criteria will show them to be quite fair and well thought out. It is suggested that you make note of this particular issue of the magazine for reference to these general rules in the case of all contests for the ensuing year. Details are as follows:—

Disqualification: An entry in WIA conducted contests may be disqualified if, upon checking of logs, it is necessary that the overall score be reduced by more than two percent. Score reduction does not include correction of arithmetic errors. Reductions may be made of unconfirmed QSOs or multipliers, duplicate QSOs or other scoring discrepancies. An entry will be disqualified if more than two-percent duplicate QSOs are detected as being claimed for credit. For each duplicate or miscopied call sign removed from the log by the Contest Manager a penalty of three additional QSOs will be deleted. The penalty will not be considered as part of the two-percent disqualification criterion. If a participant is disqualified, that operator will be barred from entering the contest for that particular mode on the ensuing year. eg Disqualification from the 1984 RD phone will prohibit an entry for the 1985 RD phone, however participation in the 1985 RD CW would be allowed.

Logs which are very untidy, illegible or incorrect in layout to a major degree may also be disqualified. The call signs of disqualified participants may be listed in Amateur Radio magazine together with the contest results.

AMENDMENT TO THE REMEMBRANCE DAY CONTEST RULES

Please accept apologies for the fact that the scoring rules for the 1984 Remembrance Day Contest were not properly spelled out. The applicable section should be read as follows:

5 Scoring Contacts

(a) On all bands a station in another call area may be contacted once on each band using each mode. That is, you may work the same station on each of these bands on phone, CW, SSTV and RTTY.

(b) Section a, Rule 3, phone contacts score one point. CW and RTTY Contacts score two points. Cross mode contacts — CW RTTY to phone score one point. CW to RTTY score two points.

You will note that this change is brought about due to the fact that it was decided that CW contacts under Section b, Rule 3, now score two points per contact. The rest of Rule 5 c and d remain as previously published.

I trust that this late addition will not inconvenience any of you, however the rules as published had been previously submitted and I had little chance to review them.

NOTE CLOSING DATE FOR LOGS

All logs must be postmarked no later than the 14th September and received no later than 28th September.

From the new FCM . . .

Having agreed to accept this post I hope that I can do justice to same from a number of different points of view. Not everybody is interested in contest operation and I feel that where possible the rights of such should be respected. There is though, a solid nucleus of those who thoroughly enjoy contest operation (and I am one of them) and they should not be ignored. There are very good reasons why contests occur on the amateur bands, and I should not need to spell these reasons out. Suffice to say that if you check the 'in house' magazine of almost any major national amateur organisation you will see that they invariably sponsor contests.

I have some pretty firm views on the matter of contests, and during my term as FCM I hope to place some of these views before you. There are some other matters where I have no strong feeling one way or another. Therefore, I am most interested to hear just what you, both the contester and the non-contester, have to say about any aspects of the subject. Your opinions may cover from such items as scoring, power limitations, fair use of the spectrum to what is the best way to grab 'Someone else's Frequency'. *(If there is such a thing.)*

To toss my hat into the ring I will suggest one matter upon which I would very much like your opinions, and fairly quickly too. That is the matter of timing of our various Australian contests. At the moment we have our John Moyle Memorial Field Day Contest in February each year. Following this we then have a major gap until August before there is another contest involving HF

operation. (The Remembrance Day Contest.) This is closely followed by the VK Novice Contest and then only a few weeks elapses before we have the VK ZL Contest.

The VK Novice Contest seems to receive very little support, even from novices. Is this because it is so close to the Remembrance Day Contest, which would be our most popular one by far? I would venture to say that this is the case. The VK ZL Contest date is set by other than the FCM and run alternatively by a ZL and VK Contest Manager.

It would seem that a fair case exists for moving the date of the John Moyle Memorial Field Day Contest. In February we have one of our hottest months of the year for much of our country. I know for sure, as I operated on quite a few occasions from the desert near Woomera. In the northern parts of the country they have the great 'Wet'. Ask the VK4 boys about this. In the south east of South Australia the amateurs have been told that the use of generator sets in the bush during the summer months has been banned. Again from experience of several years of WICEN operation on the Murray River Canoe Marathon with the VK3 Group I have first hand knowledge of the constant worry of running a petrol generator amongst tinder dry bush as well as the dangers of handling and transporting the fuel in excessive temperatures.

So, here I would appreciate very much your considered opinion. Perhaps the VK Novice Contest could be moved to February and you can operate in this to your heart's content in your air-conditioned shack. Then we could move the JMMFDC to one of the cooler months in autumn.

Perhaps you are a member of a club and would like to obtain a number of opinions before writing to me about this. If your comments represent a consensus this could carry more weight when matters are under consideration particularly if a letter comes from the Secretary or other suitably credited officer of a Club affiliated with the WIA.

As stated before, your views on these matters are needed quickly so as to allow sufficient time to organise any changes, promulgate the information and also to cover the lead time necessary for provision of the notes to Amateur Radio magazine.

Incidentally, the policy of decision making with regard to Contest matters will not just be left to the FCM. I will be working with a committee which will allow expression of opinion before decisions are made. Also, it is intended that no major changes would be made without first obtaining comment from each Division of the WIA. *(Please take note that such matters discussed in these notes should be brought to the attention of Divisional Secretaries and Councils.)*

It is just about thirty years since I first wrote a regular column for this magazine so I hope that I can build up and maintain an interest for contesters and non-participants alike. It may even be that some matters we will discuss could be controversial.

Contest: *Struggle for victory, for an object, etc. (Oxford Dictionary, Britannica World Language Edition.)*

AR

AMENDMENT FROM JULY AR

Rule 5c should read . . .

On the bands 52MHz and above, the same station in any call area may be worked using any of the modes listed in Rule 3 at intervals of not less than six hours since the previous same band/mode contact. However, the same station may be contacted repeatedly via satellite not more than once by each mode on each orbit. Apologies to all.

Remember all logs must reach the FCM no later than 28th September 1984.

INTRUDER WATCH

Bill Martin, VK2EBM
FEDERAL INTRUDER WATCH
CO-ORDINATOR
33 Somerville Road, Hornsby Heights, NSW 2077

Well I certainly had my work cut out putting together the IW Summary for April last, with reports coming in from all over the country. Very many thanks to one and all for their support of the IW during April, and months past.

As an aside, for the first time, VK6 Divisional Intruder Watch Co-ordinator, Bruce Hunt VK6KVV, actually hand-delivered his reports to this QTH. Now that's what I call dedication. I suppose the fact that he was in VK2 on a business trip may have had something to do with it.

Nice to meet one of the divisional co-ordinators in person, and, by virtue of the geography involved, it doesn't happen too often.

CB activity from Indonesia on the 10-metre band is assuming plague proportions, and can be heard from 28.0 MHz to about 28.330 MHz.

From VK6 comes news of non-amateur maritime mobile stations using 14.325 MHz as their 'sked' frequency. This is being looked into.

Bob, ZL1BAD ZL6IW the IARU Region 3 Co-ordinator, has been busy with the typewriter again, and has sent letters of complaint to Radio Moscow, The Voice of Greece, and the Korean Central Broadcasting Committee, regarding their spurii being heard on 15 and 20 metres. Don't forget, broadcast stations heard between 7.1 and 7.3 MHz cannot be considered to be intruders, as RTTY and CW stations between 14.250 and 14.350 MHz also cannot.

I am gradually getting to know some of the faces of the regular reporters to the IW, courtesy of AR Magazine, with the latest being Ron VK4BG, following on photos of Alf VK3LC, and Ivor VK3XB. It's nice to be able to visualise with whom one is corresponding.

Col VK4AKX, deserves a special mention here, due to his staunch support of the IW, and the efficient way he goes about it, and is by far, at the present time, the most prolific supplier of intruder observations. Some intruder activity seems to have lessened recently, but suspect it is due to frequency changes, and seasonal changes in the case of the broadcast stations.

Very pleased to see that some amateurs took advantage of the IW Log reporting sheet, which was included in AR, April, 1984, and, if the response justifies, I will certainly be asking the AR Editor to do this again.

Those who have been wondering if the USSR Naval Intruder, 'UMS' has finally left the amateur bands can forget it. He has merely moved from 21.032 MHz, his regular summer spot, to take up winter residence on 14.141 MHz, where he is causing more problems than usual. This is a yearly frequency-change, and he will no doubt move back to 15 metres at the onset of next summer.

Congratulations to one of our SWL IW observers, who has supported the IW for some time, and who now holds the call of VK1ZXA. Well done, Brian. Any SWL who is working towards his amateur licence might well follow Brian's lead, and get involved in the Intruder Watch, as there is much to be learned by monitoring the bands, and finding out who is where. (And whether or not they should be). Welcome to the ranks also to Craig, VK3KCC, who has sent in reports of Japanese Taiwanese fishing vessels creating a nuisance on the VK5AWI slow morse sessions. The DOC is aware of these nuisances.

Col VK4AKX, re-confirms that the greatest source of interference on 40 metres is coming from China and Albania. Grahame VK1GP, has heard a station 'NPG', apparently trying to work amateurs (?). This station, working CW, is San Francisco Naval Radio. What next? Tom VK4BTW, has been hearing the CW intruder, 'SGJ', still working on 7.060 MHz, and the US FCC has complained about this one to the source.

Alan VK3AMD has been hearing the Woodpecker between 3.8 and 4.0 MHz- hope this doesn't mean he's coming down to 80 metres. We get enough from him on the higher frequencies. Nice to hear from Ivor VK3XB. Again VK3 continues to help us out with reports. Fred VK1MM, the immediate past VK1 IW Co-ordinator, continues to help out with reports on intruders-thanks, Fred. Also nice to hear from VK5 Division, with Lindsay, VK5GZ at the helm. Some good reports coming in from this division.

Would like to concentrate an attack on 'UMS', mentioned above, operating on 14.141 MHz, and would appreciate reports on this nuisance from readers. He uses mostly RTTY, but also FSK Morse, and identifies in CW from time to time- can be heard almost any time of day. Let's rally our forces, and try and *'give him a shove'*.

Thanks to all who contribute reports of intruders, and any queries re intruders always welcome. See you next month.

AR

JULY'S BEST PHOTOGRAPH

The photograph selected by the judges for the July magazine was the front cover photo.

This photograph will now be considered for the prize of $100 worth of film and video tapes donated by Agfa Gevaert Limited.

QSP

AMATEUR SPACEMAN?

European Space Agency astronaut Huber Occolls from the Netherlands may become the **first European amateur in space.** He is due to fly on one of the USA space shuttle missions during 1985. Although he is not yet licensed, he intends to obtain his ticket prior to launch. The Dutch national Society, VERON, is apparently to make an official request to NASA for him to use equipment similar to that used by W5LFL.

from RSGB News Bulletin No 7

AR

VK3 WIA NOTES

Jim Linton, VK3PC
DIVISIONAL PRESIDENT
VK3 DIVISION

RADIO MASTS DECISION — NOT YET

Planning Minister, Evan Walker has delayed his decision on planning controls for radio masts until September.

A year ago the Victorian Parliament's Natural Resources and Environment Committee tabled its report after receiving submissions and holding a public hearing.

Mr Walker was due to tell Parliament last April what he intended to do with the report — but instead sought leave until September.

This followed a deputation by WIA representatives who made it clear the committee's recommendations on antenna size were unacceptable.

The WIA has supplied photographs of amateur radio masts to assist Mr Walker in reaching his decision.

KINNEAR TROPHY AWARDS

These awards are in recognition of contributions by members of this division to AR magazine. First prize went to Drew Diamond VK3XU for homebrew gear articles; Ron Cook VK3AFW who writes the Novice Notes column was second and Tony Tregale VK3QQ received the third prize for his continuing series of EMC articles.

From left — Drew VK3XU, Tony VK3QQ and Ron VK3AFW.

The Victorian Division actively encourages members to contribute technical articles, feature stories, photographs, or any other suitable material to AR magazine — the Kinnear Trophy Awards will be an added incentive.

WIA CLASSES

August is an extremely busy month with both Novice and AOCP theory and Morse code classes starting.

Novice classes begin on 17 August, and AOCP level will start 20 August.

These theory and Morse classes run for six months ending in time for the February DOC exams.

Candidates for the exams being held this month can take advantage of the theory revision weekends — Novice weekend is 11 and 12 August, while AOCP is conducted on 4 and 5 August.

The WIA will also conduct a trial Novice theory exam at 3 pm on Sunday, 12 August — cost is a mere $5. To enrol or make further inquiries contact: Education Officer, Wireless Institute, 412 Brunswick Street, Fitzroy, Vic. 3065, or phone (03) 417 3535.

REMEMBRANCE DAY CONTEST

Here is a challenge to all member clubs and zones of the Victorian Division. To help Victoria win the Remembrance Day Contest a club and zone competition has been initiated as part of the RD. The rules are listed here so club and zone secretaries should get busy and send in the list of call signs for your club, remember they must reach the Victorian Awards Manager before the RD contest (by Friday 10th August). The address is: *Awards Manager, WIA-Vic Div, Box 270, Greensborough, Vic 3088.*

In addition to this club and zone competition one callsign will be selected at random from the Victorian stations in the official results of the RD contest. This person will receive a special prize of significant value. This draw will be open to all amateurs and SWL's in Victoria, all you have to do is send in a valid log for the RD contest to the Federal Contest Manager.

RULES FOR THE VICTORIAN CLUB and ZONE COMPETITION

1 The competition is open to any zone or member club of the Victorian Division of the Wireless Institute of Australia.
2 The callsigns of the club members must be sent to the Victorian Awards Manager before the commencement of the Remembrance Day Contest.
3 There must be at least twenty licenced members in the club or zone.
4 To have their entry recorded for their club an amateur will have to submit an RD Contest log to the Federal Contest Manager. This log must be validated by the FCM and be reported in the official results as published in "AMATEUR RADIO". *LOGS ARE NOT TO BE SENT TO THE VICTORIAN AWARDS MANAGER.*
5 The winning club or zone will be that with the highest percentage participation calculated by:
$$\frac{\text{Number of callsigns of members in RD results X 100 \%}}{\text{number of members callsigns.}} \quad \frac{}{1}$$
6 Callsigns which appear in more than one club and zone list will be included in each one.
7 Club and zone callsigns can be included.
8 The Victorian Awards Manager may make investigations to ensure the number of callsigns provided is in line with other published club or zone memberships.
9 The results of this competition will be published in "AMATEUR RADIO" magazine. The winning club or zone will have their name engraved on the trophy and will hold same for 12 months.

Submitted by Greg Williams VK3BGW, Vic Div Award Manager.

Derek VK3BYA.

WICEN NEWS

By Derek McNiel VK3BYA, Victorian WICEN Co-Ordinator.

"WHATEVER HAPPENED TO MY QUESTIONNAIRE?"

Imagine that you are one of the 512 Victorian Division members who actually took the trouble to send in the questionnaire included with your WIA membership renewal notice. You have probably heard little or nothing since then and may even be wondering if it was worth the effort.

The short answer is "yes" — unless the lack of emergencies or disasters has caused your interest and enthusiasm to dwindle.

Each questionnaire has been put through a process of computerisation and subject to any computer error, your name, address and phone numbers have been passed to the WICEN co-ordinator in your region. If he hasn't contacted you by now, perhaps it's time to get in touch with him.

Since last November, the WICEN Steering Committee and now the WICEN Central Committee has been working to achieve a number of basic objectives.

1) Establish WICEN in the Victorian State Disaster Plan.
2) Assess the size, location and capabilities of the WICEN manpower resource.
3) Formulate a lot set of standard operating procedures and develop a suitable training programme.
4) Establish a plan of action which will ensure that WICEN can respond quickly and effectively to any request for emergency communications.

These are but a few of the objectives stated at the WICEN general meeting on 31st March this year and every effort is being made to achieve them by the next general meeting on 6th October.

In the meantime, what has been going on in Victoria?

The 1983 Ash Wednesday disaster has caused many people to become involved in disaster planning and WICEN representatives have taken part in these activities at state, regional, and municipal levels

The greater this involvement becomes, the greater must be the commitment of WICEN members. No longer can you afford to say you know all about handling emergency traffic and don't need practice or training.

The first point of inquiry in relation to training should be the co-ordinator for your region — he/she will advise you what is required

The Central Committee, under the direction of Training Co-ordinator, Graeme Scott VK3ZR, has already conducted the first in a series of planned training seminars. This was held on 26th May at the Shire of Pakenham offices — all those who attended agreed it was a hard day's work but well worth the effort.

The most important lesson learned at Pakenham was: "Message handling isn't as easy as it looks and it's even harder under pressure."

The moral of the story is *"Get out there and practice,"* using the interesting WICEN exercise events where your help will be appreciated while you improve message and operating skills

So *"WHATEVER HAPPENED TO MY QUESTIONNAIRE?"* You're now a number in a computer system, a target for training, and a volunteer for one of the many community activities for which WICEN involvement is essential to the safety and well-being of the competitors.

If you haven't already been in contact with your local co-ordinator, try one of the following (there are others to be advised later):

DISPLAN REGIONS

Dick Antosiewicz VK3AEX Ballarat
Don Hogg VK3XBL Bendigo
Dudley Stalker VK3KJ Colac
Col Pomroy VK3BLE East
Peter James VK3AWY Geelong
Keith Scott VK3SS Gippsland
Brian Ritchie VK3AFN North East
Rob Hose VK3KAH Shepparton
Peter Milne VK3BEJ Swan Hill

Don Baulch VK3AKN West
METROPOLITAN AREAS
Gordon Hall VK3YOD Western Suburbs
Paul McMahon VK3DIP Nerg
Graeme Scott VK3ZR EMDRC
Warren Edmonson VK3NUM SPARC
Fred Turner VK3DRX Frankston
Eric Buggee VK3AX Pakenham
Kevin Alsop VK3BOE Sherbrooke

Who knows what lies ahead for Victorian WICEN in the future, so be prepared to play your part.

Don't forget the WICEN annual general meeting, 6th October at the Wireless Institute Centre.

AR

Ken VK3GJ (left) receives the Gadsen Trophy from Divisional President, Jim VK3PC, for his technical achievement with work on the Melbourne RTTY repeater, VK3RTY.

QSP

NEW ARRANGEMENTS INSTITUTED FOR BROADCASTING COURSES AND EXAMINATIONS

Tertiary institutions wanting to provide persons with training in the operation of transmitting equipment for radio and television stations may now apply to the Department of Communications to have courses approved.

The Department is phasing out its role in conducting examinations for two certificates — the Broadcasting Operator's Certificate of Proficiency (BOCP) and the Television Operator's Certificate of Proficiency (TVOCP)

However, to ensure that persons wanting to undertake examinations in the 1984 academic year are not disadvantaged by the new arrangements, the Department will conduct both BOCP and TVOCP examinations in 1984

The courses which tertiary institutions intended to run will have to meet certain standards laid down by the Department. Graduates of approved courses can apply for a certificate to be issued by the Minister for Communications. This was because under the *Broadcasting and Television Act* 1942 staff responsible for the operation and maintenance of transmitting stations must, in the opinion of the Minister, be competent in their jobs.

Committees consisting of DOC, educational, industry and union representatives will be established to monitor approved courses and examinations and to review and upgrade the courses to ensure they maintained pace with technological development.

The Committees will also be involved in developing transitional arrangements for examinations, and ensuring that practical training was available to students in country areas.

Any tertiary institutions wishing to conduct courses, and any candidates wishing to enquire about the new arrangement, should write to: The Assistant Secretary, Station Establishment and Operations Branch, Department of Communications, GPO Box 5412 CC, Melbourne Vic 3001.

From a press release from the Minister for Communications 12 June 1984.

AR

ADVANCED ELECTRONIC APPLICATIONS

Computer Patch Interface model CP-1

Now you can easily convert your personal computer and transceiver into a full function RTTY station with the new CP-1 Computer Patch interface and appropriate software and cabling. The CP-1 is a professional quality RTTY CW terminal which cuts no corners on sensitivity, selectivity and reliability. Software packages include split screen operation and large type-ahead and message (brag) buffers at all the common RTTY and CW speeds

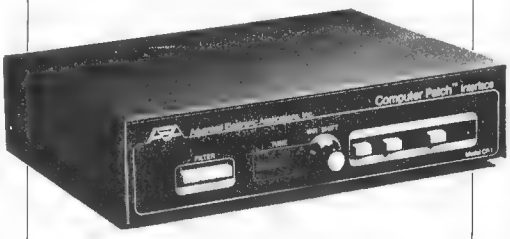
The CP-1 Computer Patch is easy for an inexperienced RTTY operator to hook up and operate, but will still appeal to the more experienced and sophisticated RTTY user. The CP-1 is a moderately priced high performance, feature packed unit, which utilises reliable innovative design in the style you have come to expect from Advanced Electronic Applications. It is priced competitively with other popular units, but includes many extras not offered by them

With the tremendous price drop in personal computers, your total system cost is far below that of dedicated RTTY CW systems which offer few, if any, additional features. No computer programming knowledge is required to use the CP-1 with your computer and you will still have the opportunity to use your personal computer for a variety of unrelated functions

The CP-1 demodulator provides greatly improved performance compared to popular single channel RTTY detectors. An easy to use magic-eye bargraph tuning indicator gives the closest thing to scope tuning, but separate Mark Space scope output jacks are also provided A state-of-the-art multi-usage active filter is incoporated offering pre and post limiter filtering Floating comparator (automatic threshold) circuits give the best possible copy under fading and weak signal conditions

Additionally, the CP-1 offers a variable receiver shift capability for any shift from 100 to 1000 Hz with a NORMAL REVERSE tone selector switch on the front panel. Power requirement for the CP-1 is 16 VAC

Price $375 00 (plus P&P)



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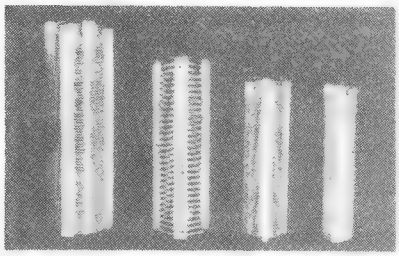

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1-16	½"	16	3"	No 3003	$1.60
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3-08	¾"	8	3"	No 3010	$2.30
3-16	¾"	16	3"	No 3011	$2.30
4-08	1"	8	3"	No 3014	$2.60
4-16	1"	16	3"	No 3015	$2 60
5-08	1¼"	8	4"	No 3018	$2.90
5-16	1¼"	16	4"	No 3019	$2.90
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VK2 MINI BULLETIN

Tim Mills VK2ZTM
VK2 MINI BULLETIN EDITOR
PO Box 1066, Parramatta, NSW 2150

VK2 WOULD LIKE A HIGH RD SCORE

VK2 is looking forward to as many amateurs and SWL's as possible taking part in this year's RD, and more importantly submitting your log after the event. It is the numbers game and the larger states have the ratio of entrants to total licenses to overcome. The RD is that special contest each year when we remember those from our ranks who paid the Supreme Sacrifice in times of conflict. Set aside a little while over the weekend to have those few contacts. By the way VK2WI conducts the broadcast at 0730 UTC on the Saturday of the RD weekend, ending with the opening address just before 0800 UTC. For this weekend only there is no Sunday morning broadcast.

THE UNCOLLECTED QSL PROBLEM

In line with an earlier Divisional Council decision the QSL Bureau Manager placed the following in the "Public Notices" of the Sydney Morning Herald on Saturday the 16th June last . . .

WIRELESS INSTITUTE OF AUSTRALIA NSW DIVISION QSL BUREAU.

As from 31st July 1984, and regularly thereafter, all QSL cards held at the bureau, whether for members or non-members, and unclaimed for two years will be destroyed without further notice being given. A detailed statement is available on receipt of a stamped addressed envelope.

D PEARSON Manager.
Box 73
Teralba 2284

JOTA

This weekend is fast approaching in October. Various groups will be looking for amateurs to assist.

SEMINAR

The Division is planning to hold a Seminar on Saturday 22nd September at Amateur Radio House, 109 Wigram Street, Parramatta. The programme will commence mid morning and four speakers are planned on various radio subjects. There will be further details in next month's notes.

WICEN

It is coming to a busy time of year for exercises. During August there is the City to Surf on the 5th and Volunteer Air Patrol on the Central Coast on the 12th. In September there is the Goulburn to Liverpool cycle race Saturday the 8th, a foot race in Sydney on the 9th and the Simulated Emergency Test on the 15/16th. In October there is the Outward Bound Canoe Classic on the Hawkesbury 13/14th. Further details via the broadcasts and the Thursday night nets.

The June holiday weekend provided perfect weather at Port Macquarie for their Field Day. *Is your group or club having an activity and would like some publicity?* Remember the lead times for a mention in these notes is 2 to 3 months. The broadcasts should start a month before the event. All material should be sent to PO Box 1066, Parramatta, NSW 2150. You can drop in weekdays 11 am to 2 pm or Wednesday night 7 to 9 pm. Telephone 02 689 2417.

It is now two years since moving from Atchison Street. Our old property appears to have changed hands a couple more times and early this year was demolished. In its place, a three storey office block has been built in the same style as the one next door, with the upper floors extended towards the street.

The Dural Committee had perfect weather for the Fireworks night in June and would like to thank all who attended. With next year being the Institute's 75th anniversary they are looking to obtain permission to hold the event nearer the foundation date in March. The broadcast officer is still looking for announcers and engineers to build up the roster and increase the spacing between attendances of the present personnel. *Can you assist?* Next year will be VK2WI's 32nd year since being purchased and while we have built up a nice collection of photo's and history we still want more. *Did you have some involvement in its early development?* If so, please contact the Divisional office so that we may record your name and have it passed on to our Historians.

Living in suburbia is always getting harder and when it comes to putting up a tower everything seems to be against you. In VK3 they have tackled this problem with a government investigation into the subject. The findings and outcome are in a book available from the Divisional library. Divisional Council has this problem under continuous review and needs input from members who have made applications to erect a tower in recent times. A broadcast request brought good response but further input is required, whether successful or not. Details to Divisional Office please.

AL

FIVE-EIGHTH WAVE

Jennifer Warrington, VK5ANW
59 Albert Street, Clarence Gardens, SA 5039

On Thursday 31st May, I spent the best part of a very pleasant day in the company of Les VK5KLH and Jack VK5FV at a display station in the Commonwealth Bank, King William Street. I enjoyed that one day but I had to take my hat off to Jack and Les who spent five consecutive days there. The display area was just inside the main door so we were easy to see and created quite a bit of interest. Our visitors included Alan VK5ZD and Peter VK5OB who work nearby, also Sam VK5TZ who only came in to do some business and was persuaded to stay for afternoon tea! It was also nice to meet one or two intending amateurs that I had previously spoken to by phone. We hope that it has created an awareness of amateur radio if nothing else.

This month I have been requested to publicise the need for information on what is happening in amateur radio in Australia for two overseas magazines. Jim Joyce VK3YJ has taken on the unenviable job of writing about Australia for the '73 International' column of "73 Magazine". He has written to ask if I will publicise his request for information; in particular 'outback' or Australiana type stories, but I guess he would be grateful for all information received. Jim is QTHR in the 83 84 Callbook.

The other request came from Gerry Bongalon DU5AT, who writes for "The Amateur Radioworld" magazine in the Philippines. He writes *"that Filipino amateurs would be interested to read more about amateur activities in your country."* Any one who is interested should contact Gerry at PO Box 75, Legazpi City, Albay, 4901 Philippines.

DIARY DATES

28th August — speaker not known.
25th September — Display of Members' Equipment

AR

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WA BULLETIN

THE 8TH WEST AUSTRALIAN ANNUAL 3.5MHz CW & SSB CONTESTS TRANSMITTING & RECEIVING

RULES

DURATION: SSB Saturday 1st and Sunday 2nd September CW Saturday 29th and Sunday 30th September. On both days between the hours of 1100 and 1330 UTC ie 5 operating hours in all for each contest.

FREQUENCIES: All contacts to be made in the 3.5/3.7MHz band using frequency allocation applicable to your licence conditions.

CALLING: Stations will call CQ WAA using the three times three technique, infringement of this rule by the use of long CQ calls may entail disqualification as will pre-arranging of a QSO.

SCORING: Points for contacts are as follows:
Within Western Australia: 5 points per contact.
WA to all Mainland Eastern States: 2 points per contact.
WA to VK7 4 points per contact.
WA to VK0 & Overseas 8 points per contact.

Stations other than WA: 3 points per contact with WA stations only.

MULTIPLIERS: A multiplier of 2 per WA Shire worked will apply to the final score. For WA stations north of the 26th parallel a multiplier of 1.5 per contact confirmed.

CONTACTS: Stations may be worked twice on each night ie once between 1100 and 1300 UTC and again between 1300 to 1330 UTC these contacts will count for points. Each time the contact for WA stations will take the form of an exchange of 5 characters comprising RST/RS and Shire letters. eg a station in NORTHAM sends 579NM or if in HARVEY 579 HY, this helps towards the worked all shires award. Eastern States and Overseas stations will send RST/RS plus a running number starting at 001.

LOGS: Contest logs to be set out on one side of a quarto or foolscap sheet with columns headed as below.

DATE: CALL: OPERATOR:

TIME Z	CALL WKD	RST OUT	RST IN	SHIRE LETTERS	SHIRE MULTIPLIER	POINTS CLAIMED

Column 7 to be totalled at the foot of each page and the running totals brought forward. The last page to contain the following summary: Total number of points scored, input power, equipment and antennas used, along with comments on the contest in general. SWL participants score as above using the outgoing Tx score.

All logs to be addressed to WAA Contest Committee, PO Box 6250, Hay Street East, Perth 6000 and posted to reach there not later than 30th September for both contests. The results for all contests will be published in the December issue of AR.

SHIRE LETTERS

1 — ALBANY TOWN ..... AT
2 — ALBANY ..... AL
3 — ARMADALE ..... AK
4 — AUGUSTA — MARGARET RIVER ..... AM
5 — BASSENDEAN ..... BA
6 — BAYSWATER ..... BW
7 — BEVERLEY ..... BV
8 BODDINGTON ..... BO
9 — BOULDER ..... BD
10 — BOYUP BROOK ..... BB
11 - BRIDGETOWN - GREENBUSHES ..... BG
12 BROOKTON ..... BK
13 — BROOME ..... BE
14 — BROOMEHILL ..... BH
15 — BELMONT ..... BL
16 — BRUCE ROCK ..... BR
17 — BUNBURY ..... BY
18 — BUSSELTON ..... BN
19 — CANNING ..... CA
20 — CAPEL CL
21 CARNAMAH ..... CH
22 - CARNARVON ..... CN
23 — CHAPMAN VALLEY CV
24 — CHITTERING CI
25 CLAREMONT ..... CT
26 COCKBURN ..... CR
27 COLLIE ..... CE
28 — COOLGARDIE ..... CG
29 — COOROW ..... CW
30 — CORRIGIN ..... CS
31 COTTESLOE ..... CO
32 — CRANBROOK ..... CK
33 CUBALLING ..... CB
34 — CUE ..... CU
35 — CUNDERDIN ..... CD
36 - DALWALLINU ..... DU
37 — DANDARAGAN ..... DN
38 — DARDANUP ..... DP
39 - DENMARK ..... DK
40 — DONNYBROOK-BALINGUP ..... DB
41 — DOWERIN ..... DR
42 — DUMBLEYUNG ..... DG
43 — DUNDAS ..... DS
44 — EAST FREMANTLE ..... EF
45 — EAST PILBARA ..... EP
46 — ESPERANCE ..... ES
47 — EXMOUTH ..... EH
48 — FREMANTLE ..... FM
49 — GINGIN ..... GG
50 — GNOWANGERUP ..... GP
51 — GERALDTON ..... GN
52 — GOOMALLING ..... GM
53 — GOSNELLS ..... GS
54 — GREENOUGH ..... GR
55 — HALLS CREEK ..... HC
56 — HARVEY ..... HY
57 — IRWIN ..... IN
58 — KALAMUNDA ..... KA
59 — KALGOORLIE ..... KL
60 — KATANNING ..... KG
61 KELLERBERRIN ..... KN
62 KENT ..... KT
63 KOJONUP ..... KP
64 - KONDININ ..... KD
65 — KOORDA ..... KO
66 KULIN ..... KU
67 — KWINANA ..... KW
68 — LAKE GRACE ..... LG
69 — LAVERTON LV
70 — LEONORA ..... LA
71 — MANDURAH ..... MB
72 — MANJIMUP ..... MP
73 — MEEKATHARRA ..... MK
74 — MELVILLE ..... MV
75 — MENZIES ..... MZ
76 — MERREDIN ..... MD
77 — MINGENEW ..... MW
78 MOORA ..... MA
79 — MOROWA ..... MR
80 — MOSMAN ..... MS
81 — MUKINBUDIN ..... MU
82 — MULLEWA ..... ME
83 — MUNDARING ..... MG
84 — MURCHISON ..... MH
85 — MURRAY ..... MY
86 — MT. MAGNET ..... MM
87 — MT. MARSHALL ..... ML
88 — NANNUP ..... NP
89 — NAREMBEEN ..... NN
90 NARROGIN ..... NG
91 - NARROGIN TOWN ..... NT
92 - NEDLANDS ..... NL
93 — NORTHAM ..... NM
94 — NORTHAM TOWN ..... NO
95 — NORTHAMPTON ..... NH
96 — NUNGADIN ..... NG
97 — PEPPERMINT GROVE ..... PG
98 — PERENJORI ..... PJ
99 — PERTH ..... PH
100 — PINGELLY ..... PY
101 — PLANTAGENET ..... PT
102 — PORT HEDLAND ..... PD
103 — QUAIRADING ..... QG
104 — RAVENSTHORPE ..... RT
105 — ROCKINGHAM ..... RM
106 — ROEBOURNE ..... RB
107 — SANDSTONE ..... SS
108 — SERPENTINE-JARRAHDALE ..... SJ
109 — SHARK BAY ..... SB
110 — SOUTH PERTH ..... SP
111 — STIRLING ..... ST
112 — SUBIACO ..... SU
113 — SWAN ..... SW
114 — TAMBELLUP ..... TP
115 — TAMMIN ..... TM
116 - THREE SPRINGS ..... TS
117 — TOODYAY ..... TY
118 - TRAYNING ..... TG
119 - UPPER GASCOYNE ..... UG
120 — VICTORIA PLAINS ..... VP
121 WAGIN ..... WN
122 — WANDERING ..... WD
123 — WANNEROO ..... WO
124 — WAROONA ..... WR
125 WEST ARTHUR ..... WA
126 — WESTONIA ..... WS
127 — WEST PILBARA ..... WP
128 - WICKEPIN ..... WI
129 — WILUNA ..... WU
130 — WILLIAMS ..... WL
131 — WONGAN-BALLIDU ..... WB
132 — WOODANILLING ..... WG
133 — WYALKATCHEM ..... WY
134 WYNDHAM EAST-KIMBERLEY ..... WE
135 — WEST KIMBERLEY ..... WE
136 — YALGOO ..... YO
137 — YILGARN ..... YN
138 — YORK ..... YK

MAGAZINE REVIEW

Roy Hartkopf, VK3AOH
34 Toolangi Road, Alphington, Vic 3078

(G) General. (C) Constructional. (P) Practical without detailed constructional information. (T) Theoretical. (N) Of particular interest to the Novice.

CQ-TV February 1984 No 125 General practical operating and constructional information for ATV. Standard PCBs.
HAM RADIO March 1984. Audio to Microwave Amplifier. (C) Computer programme for moon tracking. (G) Speech synthesis for Repeaters (P)
CQ March 1984 International Contest Results. (G)
RADIO COMMUNICATION May 1984. 85W Broadband HF Amplifier. (C) Universal Crystal Oscillators. (C)
AMSAT-UK OSCAR News. April 1984. Orbital calendars and satellite news.
Worldradio March-April 1984. General amateur world news, rare stations, contests, personalities etc. (G)

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LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

GET IT RIGHT!

I write with some concern about things occurring within our hobby. This involves the adoption of phrases and terminology which one would more likely expect to hear on other bands used mainly by persons who do not claim to have a knowledge of the technical aspects.

One very recent case of this involves the publication of notes as part of a Novice Course in an Australian magazine. The use of terminology referred to in this case is not only incorrect but provides the newcomer with misleading information and causes those ignorant of the true facts to accept what has been told them by others without being aware of the dangers of such acceptance.

I believe that any magazine, course etc, which claims to be authoritative should be most careful to see that it does in fact remain and appear to be so. Either its editor or some other member of the staff should be well enough informed to be able to ensure that all facts either technical or editorial in nature are as far as possible correct. Some of the mistakes one sees at times are so basic that one is almost left gasping with disbelief.

This recent case involved an article explaining some aspects of propagation. In one portion it stated as follows: *"Signals which return to earth a long distance away, after refraction in the ionosphere, are called Skip."* The article then goes on to use terminology based on this misconception such as has no place in the vocabulary of any self respecting amateur radio operator.

The statement quoted is absolutely wrong. Signals which are propagated via the ionosphere are called no such thing. You will find it most difficult, if not impossible, to locate any backing for such a statement in any of the standard reference works for radio engineers, eg Terman — Electronic and Radio Engineering etc, or even in the handbooks most often used by radio amateurs such as the ARRL or RSGB Handbooks. Acceptable terms which may be found include such as Skip Zone and Skip Distance.

Accepting this fact later statements in the article do not make sense, such as; *"When skip reaches the earth's surface. 'or' lower frequencies skip easier . . . but higher frequencies skip further."*

So please let us beware not only of the intrusion of unacceptable terms such as 'Skip', which does not itself exist as an entity, but even more of the dangers of adopting second rate terminology thus allowing complete misconceptions of theory to creep into being and cloud the knowledge which I am sure most genuine amateur operators are striving to achieve.

PS. When another operator asks me to come back, where am I to come back from?

Ian Hunt VK5QX
8 Dexter Drive,
Salisbury East, SA 5109

AR

LET'S KEEP CODE

The article on page 21 of the June issue prompts me to write.

Mr Inoue threw much light on amateur radio in Japan but his stance on "No Code" is indeed anathema to all who believe a CW requirement is a vital prerequisite to holding an amateur licence.

Whilst I do not doubt that the proliferation of amateurs in Japan has assisted technological development there, and that we desperately need an every increasing pool of technical advancement here, and that amateur radio certainly contributes to such goals, I do not believe that we need "to make it a little easier for people to become radio amateurs" or that some "people . . . were unable to attain code skill".

Why do we need to make it easier to get a licence? Is not the feeling of achievement after working hard for something more valuable than having your wants handed to you on a silver platter? Do we not value our privileges more after having to earn them? Also, witness the confusion, the obsenities etc on many of our urban repeaters. Granted many QRMers are "Full" calls but why is this QRM only profligate on 2 metres? Why is HF relatively "clean"? Who wants 40,000 CBers on the amateur bands?

Second, I do not believe that age has much to do with one's ability to learn the code, or anything for that matter. This particularly for those who are young. In fact, it is the very young who learn the fastest — letting them wait till they're older makes learning more difficult!

In conclusion, let's encourage CW. As a method of effective and efficient communication it is unparalleled. Also, it is heaps of fun!

Yours faithfully,
Les Cullen, VK2WU
PO Box 31,
Winmalee, NSW 2777

AR

REPLY

It was with some consternation that I read the letter from Graham VK6RO in the June edition of Amateur Radio in which he states *"Amateur Radio magazine has come in for somewhat a severe caning here in VK6 over the last year or so. It was suggested that AR should combine with ARA magazine, which I find unbelievable, as it was suggested at a WIA meeting".*

This letter does seem to malign the VK6 Division amongst who's members are some of the most loyal and active in the Institute. Then it dawned on me what had happened and it became obvious that Graham's letter had been lost in the post as indeed there was severe criticism of AR and a motion was raised to the effect that AR should combine with ARA to produce a better more viable magazine. But, this criticism and the motion was at the General Meeting held on the 17th of February 1981 and all members have agreed since then that the magazine Amateur Radio has improved to become one of the best amateur radio publications in the world. This has been backed by letters to the Federal Office in which we have both offered suggestions and commendations.

The statement *"Which I find unbelievable, as it was suggested at a WIA meeting"* I do find perplexing as if members cannot make such suggestions at their meetings, who can and where?

Also Long Live AR,

FA Parsonage
Hon Secretary VK6 Division

AR

CONTESTING

As a keen John Moyle Field Day contester I would like to comment on the lack of interest shown by limited operators.

Each year there are fewer operators operating portable.

If this attitude remains, this contest will certainly fall by the wayside. By awarding points on a distance worked scale for VHF and higher bands it will encourage more operators to go portable further into the countryside.

Also the lack of interest by limited operators to have a go in the twenty-four hour section almost makes me want to give contesting away.

It is a very hollow victory to be last in a one horse race two years in a row.

So how about a change in the rules and put a bit of action back into this worthwhile contest and keeping the ideals of John Moyle alive.

73

Bernard Henne, VK3YTT,
12 Ash Street,
Morwell, Vic 3840

AR

POLLUTION

I read with interest the article entitled "Electro-Magnetic Pollution — Are they zapping you?"

Dr Maria Stuchly (an expert on RF exposure from the Environmental Health Centre, Ottawa) was recently in Australia and gave several courses on the health aspects of RF exposure. An excellent article by Dr Stuchly appeared in the latest edition of "Radiation Protection in Australia" under the title "Health Aspects of Radio-frequency Exposure". The magazine is the bulletin of the Australian Radiation Protection Society (35 Clarence Street, Sydney. NSW 2000).

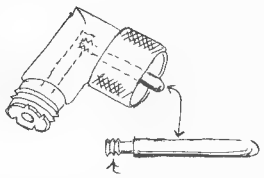
Yours faithfully,

Bill Toussaint VK6LT,
20 Beryl Avenue,
Shelley, WA 6155.

AR

TECHNICAL PROBLEM SOLVED

Recently I installed a 10m transceiver in my fishing boat, and used a right angle SO 239 socket and PL 259 plug fitting at the rear of the set. After initial successful tests, it was decided to try out the set up "on the water". Although contact was made fairly satisfactorily with VK3NZD and VK3NPB, I noticed a marked lack of QRN on the band. Thinking that the lack of power line noise, ignition noise etc, was far away on the shores of Port Phillip Bay, I didn't worry too much! – until I went to connect a SWR power meter "in line". After checking all contacts, as a last resort I tried connecting the coax straight into the back of the converted CB rig: low and behold! – noise (although not as bad as the home QTH!), and much improved reports! ("I thought you were running a kW", said one friend!)



Glue on thread effectively blocked RF.

Anyway – back home in the shack tests were made for continuity on the R angle fitting – open circuit. Further investigation revealed the trouble, which was glue of some sort on the thread of the connection inside between the male and female components.

Yours sincerely,

Dave Mann VK3DBJ
94-96 Felix Crescent,
Ringwood 3134

AR

WICEN EXERCISE

This is a brief account of a WICEN involvement to provide communications for a Car Rally of Canon Zodiac, and CRB Car Club vehicles through the forest and back roads of East Gippsland during 24-25 March.

The teams set up communication points spread over some 100 miles or so, one at Control HQ at Wy Yung near Bairnsdale, and through the forest areas at various road junctions.

Sixteen mobile and portable stations owned and operated by members of the Eastern and East Gippsland Zones were noted plus several base stations standing by, helping from time to time.

In addition about an equal number of ops and stations came from the Metropolitan and other areas. Most were experienced ops from the Murray River Marathon team or other regular operations. Their expertise was helpful

in showing how these widespread nets are managed under disciplined conditions using improved operating procedures.

That quiet genius, Michael McDonald VK3ZQV appeared on the scene with a 4WD truck with poles, multi element yagis, ropes, heavy coax rolls, etc etc, hanging out back and front. With Tom VK3KEJ, we went up to the fire tower atop Mt Little Dick. After taking several wrong goat tracks through the forest, at last we found our way to the top. Very good view and a high wooden structure quickly ascended by Mike and Tom. I provided most valuable assistance by offering advice from the ground, and tying bits and pieces on to ropes they dropped down from way above (about 50 feet up).

Quickly they had yagis, dipoles, etc sticking out in all directions, then a few quick connections on the ground, tests, and VK3REG on 146.900 was on air after a long absence. We quickly got reports from the Latrobe Valley to Orbost, and we were happy knowing the whole rally area was covered on 2 metres.

Tests with UHF were also very satisfying. VK3RGU near Morwell could be activated full strength using low power on hand helds. Michael was able to work VK3RML from his vehicle.

So the whole involvement started off fully manned and a good time was had by all. Thank you all supporting women and men for the good job which will further WICEN's good name.

Keith Scott VK3SS,
34 Henry Street,
Maffra, Vic, 3860.

AR

STOLEN IDENTITY

I refer to a letter in the "Letters to the Editor" issue June 1984 headed MM Pirates.

I am three-quarters of the way toward my novice licence and a member of WIA.

In September 1982 issue of "AR" the death of my very good friend and the amateur who stirred and started my interest in amateur radio, Lew Stone VK2LW of 10 Trafalgar Rd, Tuross Head, NSW was reported in Silent Keys and the obituaries.

Referring back to "M.M. Pirates" you will see that the signatory is Wal Stone with the call sign and address of Lew.

With my limited knowledge of amateur radio this letter appears to be well written, informative and not very controversial.

Why would someone choose to hide behind the memory of a kindly man always patient and ready to help the movement at all times?

There may be a reason for someone to resort to the habits of a Jackal, but I sincerely hope that the memory of such a fine man be left to rest in peace as he so richly deserves.

Yours faithfully

Rolly Brown
"Horseshoe Farm",
Mogo, NSW 2536

AR

I would like to draw your attention to a letter in June 1984 issue of "Amateur Radio" headed "MM Pirates," which refers to a letter appearing in "Amateur Radio" of April 1984, by Ted Gabriel VK4YG.

The author of this letter signed his name as Wal Stone VK2LW, 10 Trafalgar Road, Tuross, NSW.

Please refer to "Amateur Radio" September 1982, in which the Obituaries column reports the death of Lew Stone VK2LW, whose address in the call book was 10 Trafalgar Road, Tuross Head, NSW.

I was a long standing friend of Lew and live in Tuross Head. His widow, Doon, and his many amateur friends are concerned at this blatant use of his name, address and call sign. The fact that the christian name was varied does not excuse the writer.

The late Lew Stone's many amateur friends to whom I have spoken on this subject have asked that I write to you requesting that a retraction be published as soon as possible, unless, as there is nothing to which to object in the letter itself, perhaps the writer may care to sign his own name.

I would like to point out that I am in no way blaming you for publishing the above letter, which I am quite sure you would have done in good faith.

73

Bill Wylcks VK2BWY,
14 Hector McWilliam Drive,
Tuross Head, NSW 2537

(The coincidence was noted but assumption made that the writer was a son or brother, who had taken over the call-sign. Ed)

AR

RE-MM PIRATES-JUNE AR

Wal Stone VK2LW, surely has his wires crossed regarding my letter concerning MM Pirates.

I have been an amateur radio operator since 1950 and commenced aviation radio communications training in the RAAF in 1940! Slightly more than the two years experience he mentions! As for operating ability, we get plenty of practice since MM Pirates abound in our northern waters.

The method of sorting out the 'Goodies and Baddies' is quite simple and logical so why not try it Wal!

Don't throw away old DXCC lists, you will find that is where pirates pick their prefixes — VP2LHH/MM is a good example and he IS a self-admitted MM Pirate. The FCC will confirm that fact because the VP2 prefix is redundant.

Likewise there are NO HP3 amateur MMs licenced — one such pirate had all his gear confiscated recently in PNG.

How do you get this information? Simply by communicating with sources such as the DOC, FCC, other relevant administrations, by direct challenge of suspicious callsigns as advised by the WIA, or by asking other experienced amateurs in the know.

Anyhow, thanks for backing me up Wal!

73

Ted Gabriel VK4YG
(ex VK2AVG and VK6TG).
PO Box 245,
Ravenshoe, Qld 4872

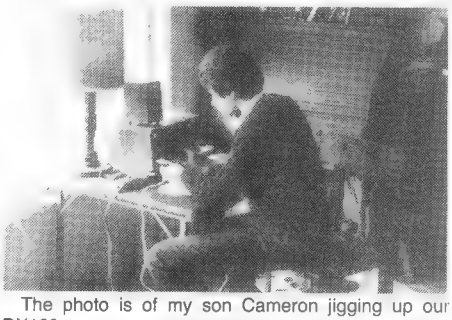
AR

MORE HOME-BREWING?

As a member of the WIA I look forward to each issue of our magazine and hope it will continue as established.

My only suggestion would be to include more for the rank amateur, particularly regarding home-brewing.

Yes, I know it's on the decline, but that's maybe because the promotion is down too.



The photo is of my son Cameron jigging up our DX160.

Yours fraternally,
Kimball Monger SWL 30121,
PO Box 60,
Ferntree Gully. Vic 3156.

AR

HANDLES OR TITLES

A disturbing phenomenon has been noted on some amateur bands recently.

"Handles" like "Brother," "Rev" and "Father" – which are in fact titles, not names, are being heard here and there.

Amateur radio was begun as a democratic, non-political, non-sectarian hobby for all who care to undertake the necessary study and pass the relevant tests. When one enters this hobby, badges of rank are left behind.

If it's good enough for a royal prince, a US senator and the Admiral of the US South Pacific fleet to be addressed over the air by their first names, surely the rest of us can also observe one of amateur radio's basic tenets.

Perhaps AOCP instructors could take a little time toward the end of their courses to fill in students on amateur radio's non-technical side – its "folk lore" or ground rules. New licensees cannot be expected to know these things if they've never been told – yet putting them right over the air isn't the answer.

Yours faithfully

Harry Atkinson VK6WZ,
294 Middleton Road,
Centennial Park,
ALBANY WA 6330

AR

KERMADEC ISLANDS

Re the letter in the April issue by John Saunders VK2DEJ under the heading "Strong Protest". His paragraph on the Kermadec Islands makes sad reading in that it is all incorrect. May I refer him to the official correspondence between NZART and the NZ Department of Lands and Survey reprinted on page 2 in the March issue of NZART "Break-In"

Further reference to the subject is to be found in my DX-ing notes on page 38 of the May issue of "Break-In" under the side heading of Kermadec Islands.

Your correspondent and other interested readers, may I am sure, be able to obtain photocopies of these pages from the overseas publications file held at WIA headquarters, on the forwarding of a SSAE plus funds to cover the photocopying of the two pages.

Incidentally, it was not necessary for Mr J Smith VK9NS of Norfolk Island, to obtain a radio license to operate from the Kermadec Islands as he already is the holder of the ZL1BUN callsign. The radio operators were simply covered in the landing permit issued in the name of Dr John Craig of the University of Auckland as the official leader of the scientific/radio group.

73 to all from across the Tasman.

Ron Murphy ZL1AMM,
"Break-In" DX-ing Editor,
35 Winstone Road,
Auckland 4,
New Zealand.

AR

MORSE SESSIONS

Although I have held a Novice Licence for a couple of years now I still listen to the Slow Morse Session on 3.55 MHz at 0930 UTC. It annoys me intensely when others interfere with the sessions by tuning up or conducting conversations on or close to the frequency. The people conducting the sessions go to a lot of time and trouble with the nightly broadcasts and their listening audience must be very wide. I presume they must have a feeling of frustration when their efforts are in vain. Probably the people causing the interference don't read AR and are blissfully unaware of the inconvenience they create.

Yours faithfully,

E Peers VK3PEG
Wilsons Promontory Light-House
Box 74
Foster 3960

AR

RADIO TRIPPING

Some weeks ago, I made a short trip with my wife in our caravan in the riverland district of South Australia. Late one afternoon, we received a knock on the caravan door when we were in a caravan park in a well known river town. My wife, who answered the knock, was told to "turn off that CB".

Later in the evening, I went to the office, to discuss the matter. I had been operating on 40 metres, and there were numerous CB's in the park as well, so I thought I may be able to straighten matters out.

But it was quite useless. The park manager made it quite clear that he had no intention of listening to any facts other than those to which he already made up his mind, ie I had the largest antenna (a centre loaded whip on 7MHz on the caravan roof) and I was blocking out their TV, over the whole park, all the afternoon. This in spite of the fact that the transceiver wasn't even in use for most of the afternoon, when he said the interference was on. I didn't use the gear again, in that park, and in subsequent parks no complaints were experienced.

Of course, nothing can be done now, in this case. But very many of us go on caravan trips, and use HF transceivers in such places. I feel that we, through our organisation, should acquaint the operators of caravan parks of the fact that radio transmitters may, at times, be used in such places, so that

they may make it clear to prospective visitors whether they will or will not permit such activities in the proximity of their sacred TV receivers.

Action along these lines would, I am sure, help to clear up some of the ignorance which is so prevalent about these things. (I must admit that in the aforementioned interview, becoming some-what exasperated, I questioned the park manager as to just what did he have between his ears – probably not a good idea). But if caravan park operators make it clear, before we check in, as to their wishes, at least we will know whether to stop, or go on to the next park.

Yours faithfully,

R M Gebhardt. VK5RI.
Mokota,
Mount Bryan, 5418. AR

POSSUM POWER!

Just about anybody who has worked me on my occasional forays on 40 or 80 metres has heard of my continuous S9 to S9+ 20 electrical "hash" from my friendly local power lines.

And I do mean *local*! ie 66000 volt at right angles to my dipole and 11000 volts parallel to it – both within 12 metres and higher than it. Over the years, I have traced several individual groups of faulty pole hardware within a .8 km radius and these have been fixed by the co-operation of the SEC.

None of these relieved the high background which could be heard in the vicinity of the 11000 volt lines over a wide area. So I had become resigned to the high noise being due to my location so near to the power lines.

So, where does the possum come in?.

The fact is that the possum went out – with a big bang-and took out everything electrical over an area about a 1.6 km square.

Power was restored about 1½ hours later but it took me a couple of weeks to realise that my 40/80 metre noise had apparently dropped to about S3.

Extensive checks of gear and antenna revealed no fault and signals came in out of a quiet background for the first time in many years.

Thinking back, this seemed to date from about the time of the big bang

Checks with the SEC revealed that the blackout had been caused by a possum getting tangled up with an 11000 volt fuse and switch system and causing quite a bit of damage

It would appear that, in the course of isolating and restoring the associated circuits, some long time dirty connection was cleaned up.

Several weeks later, the noise meter still averages S3 to 4 on 40/80 metres

So, here's to possums! One of them has changed my views as to whether or not some PLI is inevitable.

Allan Doble VK3AMD.
206 Poath Road,
Hughesdale Vic. 3166

. Allan has suffered this noise level for so many years that, as he says, he had resigned himself to the fact that nothing could be done

The propaganda from the authorities and DOC is to the effect that we have to accept this sort of noise

This story shows what utter rubbish these government departments try to push onto, legal, users of the electromagnetic spectrum

The moral of the story — DON'T ACCEPT ANY NOISE FROM POWER DISTRIBUTION SYSTEMS. . Power lines and associated equipment is intended and required to transport electrical energy — not act as high level, unlicensed, spark transmitters!

Federal EMC Co-Ordinator
AR

TECHNICAL CORESPONDENCE

I refer to the article "Horizontal versus Vertical Polarisation at VHF and UHF" (May AR). The author's reasoning and conclusions cannot be accepted.

Firstly, the Indian experiments using a horizontal transmitting antenna and vertical receiving antenna etc, are not relevant. Depolarisation can only be caused by lack of symmetry of the path or antennas. The writer's argument connecting this with path loss is meaningless.

Secondly, the author rejects legitimate experimental results because they don't fit his preconceived ideas – "the 4dB quoted by Canadian researchers is probably conservative because that is the nature of researchers" – what an insult to science!

Instead he glibly accepts the irrelevant Indian experiment because it "yields a realistic result of 8dB", and quotes a "well known amateur and antenna man "(7dB) without any mention of a systematic measurement programme.

Yours sincerely,

Ian R. Bryce, VK3BRY
Unit 2 No 15 Rockley Rd,
South Yarra. 3141 AR

AMATEUR SPIRIT

In gaining my AOCP I discovered something of the "Amateur Spirit".

My many thanks go to those amateurs who assisted in my many questions. In particular I thank the WIA for their CW sessions and training classes. But it would not be possible for me to write this if it were not for the special efforts of Bill VK5RA and Jack VK5AHI. To have their names in print in the best way I can think of to say thanks.

Yours faithfully,
Arthur Tanner VK5AAR, ex VK5NAF,
1 Pulsford Road,
Prospect, SA 5082

AR

RE-HIGHER POWER — VK2BVS JUNE 84 'AR'

Sam Voron, VK2BVS, in his letter, RE-Higher Power — June 84 'AR', displays an ignorance of the basic principles of radio communication and propagation, which knowledge is supposed to be understood by persons presenting themselves for an amateur radio examination.

Furthermore, in failing to understand these principles he does not seem to realise that it would make no difference if he were to have, say 10 kW, he would still not be able to be heard on a path affected by propagation conditions.

The answer to his problem is NOT more power but a better understanding of the influence of the sun on radio propagation.

FULLY SUPPORTING

Many amateurs will agree wholeheatedly with George Harmer, VK4XW's comments in his well presented letter — 'Back to Amateur, Amateur Radio', in June 'AR'.

Many of us see it as a timely warning to a certain element in the hierarchy of the WIA who are permitting their 'enthusiasm' to run away from their better judgement when it comes to commercialism and amateur radio.

AUSTRALIAN TRAFFIC NET

I will reply collectively to Ken Richards, VK3KPR, VK2BBT (no name) and Bill Main, VK6ZX since they are all labouring under the same misconceptions concerning emergency traffic handling.

I have tried, before, to get the message over to the ATN that all amateur radio operators must use the SAME message handling procedure when passing emergency traffic IN THIS COUNTRY. In the interests of commonsense and the logical organisation of emergency communications systems used in this country it is necessary to recognise the following basic FACTS.

Emergency communications following natural disasters are handled by: The National Disasters Organisation, States Emergency Services, the Armed Services, Government Services including the DOC, DOA, OTC, Coast Radio Stations, Telecom, Air Sea Rescue, and Amateur Radio by WICEN.

All these organisations use the same message handling system and similar message forms.

The message handling system used by ATN is NOT compatible with that used by these groups and the system used by the ARRL does NOT apply in this country for emergency communications nor is it an internationally recognised system.

The ATN cannot guarantee to deliver, on its OWN admission, TP messages accepted by them for transmission, the reason is that they do not have a viable network.

The roles of the ATN and WICEN in handling TP traffic during an emergency should NOT BE DIFFERENT, they MUST be the same and use the SAME format.

SES COMMUNICATORS are ONLY trained in the standard local system and the SES CANNOT accept any other system.

At some stage during an emergency TP messages passed by amateur radio would be handled by the SES and the Police in order to reach the recipient e.g. as happened during the WICEN Darwin National Net-cyclone 'Tracy' 1974-5.

The Queensland Division of the WIA at its 1984 conference voted against any further involvement in SET exercises on the grounds of their incompatibility with existing emergency services.

VK2BBT's comment about WICEN operators' international capability is nonsense since he denigrates the DX capabilities of many experienced amateurs.

The inane comments in Bill Main, VK6ZX's letter indicate a lack of knowledge of the basics of emergency communication and he is, therefore, not in a position to criticise those with specialist training and experience.

In conclusion the logical solution would be for the ATN to use the SES/WICEN system within this country and the ARRL system overseas, they would then be compatible and the SES and WICEN would welcome their co-operation.

If the ATN and its 'Ersatz experts' fail to recognise the logic in the above statements then they will remain 'out on the limb' and might just as well speak Urdu to the Icelanders or Swahili to the Swedes for all the use they would be in a major emergency.

73
Ted Gabriel VK4YG
PO Box 245,
Ravenshoe, Qld 4872
AR

NZART

1985 Membership subscriptions to NZART was increased to NZ$37 at the June AGM.

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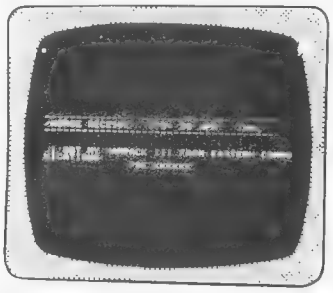

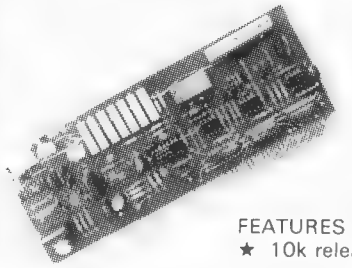

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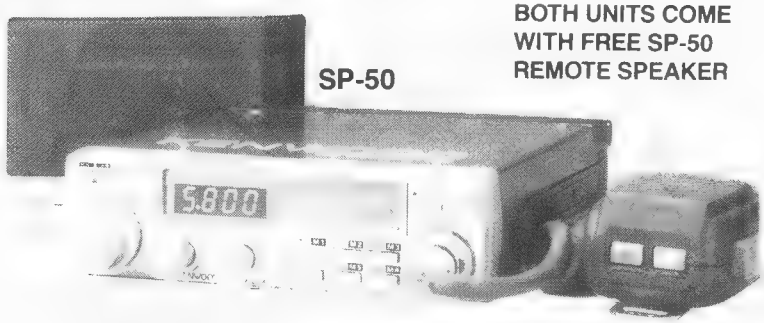

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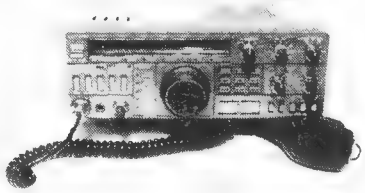

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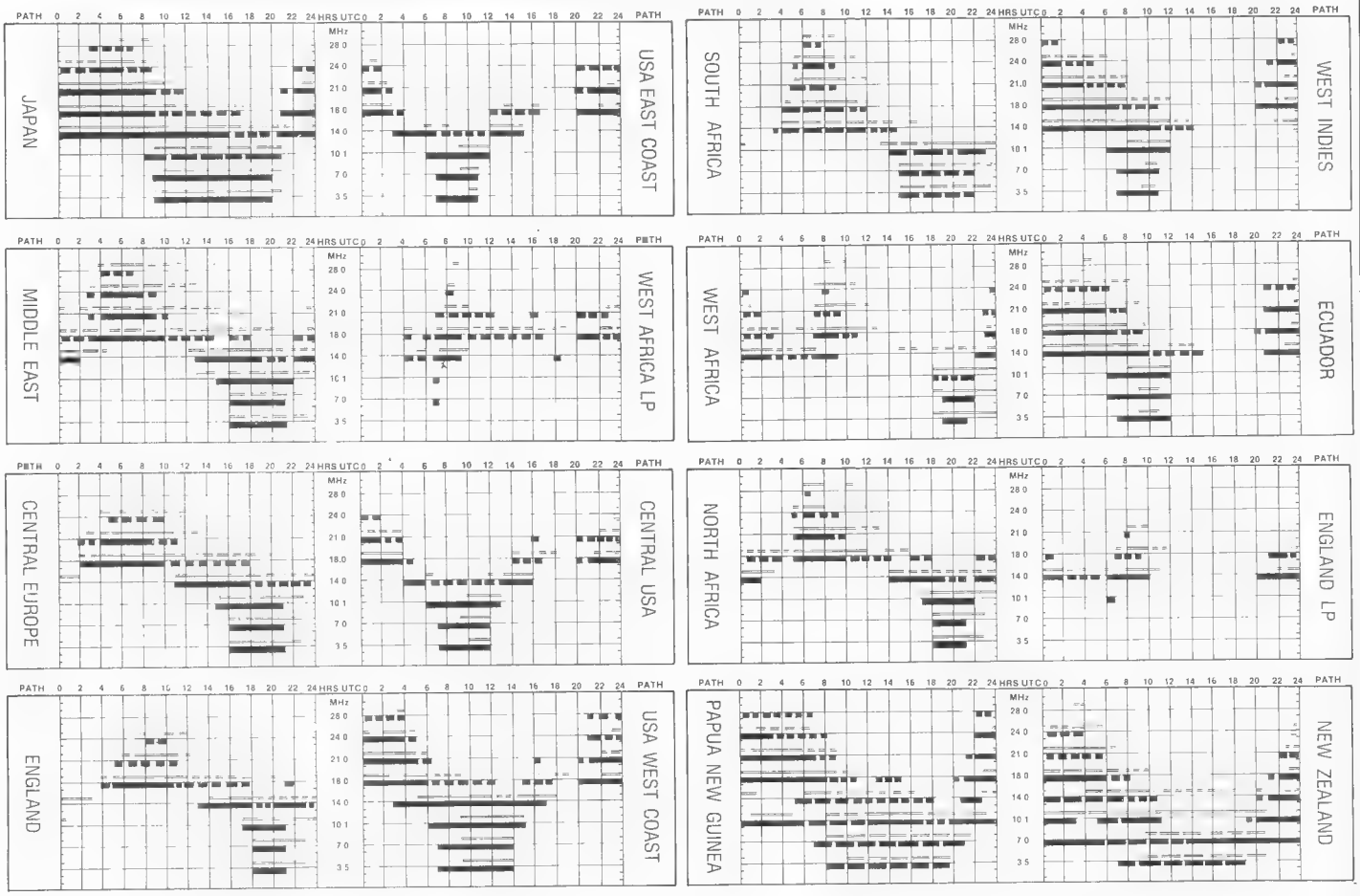


LEGEND

From Western Australia (Perth)

From East Australia (Canberra)

Better than 50% of the month but not every day (continuous lines)

Less than 50% of the month (short broken lines) Mixed Mode Dependent on angle of radiation (long broken lines)

Paths unless otherwise indicated (ie: LP – long path) all paths are short path.

Predictions reproduced courtesy of the Department of Science and Technology, Ionospheric Prediction Service, Sydney.

All times in UTC.

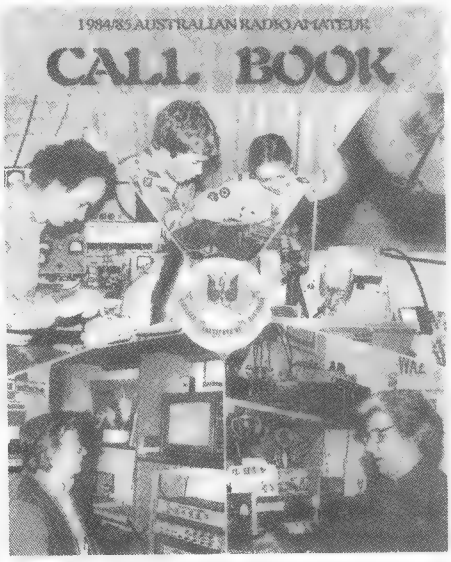
1984-1985 CALL BOOK

Work on the Wireless Institute of Australia's 30th Edition of the Australian Radio Amateurs Callbook is well advanced. Copies will be available from your Divisional Offices in early September.

A tremendous effort has been made to ensure that the call sign listing will be correct as at the end of June 1984. Over the past twelve months there has been a very high percentage of call sign changes due to upgradings, etc.

The technical data included has been updated and expanded to include Packet Radio, Third Party Nets, ALARA, Ionospherics and many more.

Again this manual will be a limited edition so we suggest you place your orders early to avoid disappointment.



Obituaries

RAY MOLONEY, VK3PRM

Ray Moloney passed away suddenly on the 19th of May 1984, at the age of forty two. Ray was a keen amateur and a great friend who will be sadly missed by all at Moorabbin District Radio Club. He was always willing to give a lending hand, and was always helpful at club activities.

Ray was a very keen motorbike enthusiast in classic road racing and he frequently travelled around Victoria to the country meetings. Ray's other hobby of course was amateur radio, a person always very keen to get on air and would always be on the MDRC club net.

He was licensed for approximately two years.

Jerry Viscaal VK3VXV MDRC
Kevin Reid VK3KFR MDRC
AR

ERN MICHELL VK3JX

Ern passed away, or as he would have preferred *"Went into orbit"* on the 21st May, 1984. He was in his 87th year.

He was well known and respected in the Western District, being the Lands' Officer based at Hamilton for many years before his retirement. His father was a Station Master, which meant many moves, so he knew a lot about Victoria. The clickety clack of Morse was familiar to him as a boy and he would often send messages down the line under his father's supervision. This was the start of his interest in electricity and later radio. Ern had a lifetime interest in sport and was a keen boxer earning good money as a young man at the Stadium *"£1 a round; but Mum never knew"*. This experience enabled him to become Commonwealth Lightweight Champion in his army days.

His broad nose was not a souvenir of his boxing days; but as a result of being hit by a cricket ball bowled by Billy Woodfull at Melbourne High School.

Ern enlisted in the First World War at the age of 18 and served until 1919 in the Middle East with the Australian Light Horse, serving in the Veterinary Corp.

He obtained his amateur licence in 1923 and was issued with the call A3JP. He claimed his first cousin was Murphy, and he considered the dry joint should have been called Michell Joint.

Because of restrictions applying to amateurs during the Second World War his licence lapsed; but the "disease" flared again and he became active again with the call of VK3AEM, later changing to VK3JX when a close friend died.

He was one of the regulars on the "Sewing Circle" when SSB became popular and many will remember him at the get-togethers, a term Tim, Dan, and Ern, the organisers, preferred at Hamilton in the 60's.

Because of the admittance of his wife to hospital and his failing health, he moved to Melbourne with his daughter for some months before going into Eastern Lodge Hostel where he continued to have short, but regular scheds on 2 metres until his final few weeks. His wife had joined him in the adjacent hospital where he finally had to be nursed. He is survived by his wife Vera, daughter Yvonne and son Peter and a number of grand and great-grandchildren.

Lo! some we loved, the lovliest and the best
That Time and Fate of all their Vintage prest,
Have drunk their Cup a Round or two before,
And one by one crept silently to rest.

Keith Smyth VK3AKS.

AR

ROBERT (BOB) CALLANDER VK3AQ

A unassuming man of many talents, respected by all that made his acquaintance, Bob VK3AQ, became a Silent Key on the 10th June after a short illness.

Bob graduated from Melbourne University as a Doctor of Medicine thence overseas to study his love of Radiology. After graduating in London, he joined the Austalian medical team for two years to screen migrants from Europe wishing to settle in Australia.

Returning home and being an adventurous sort of chap with an interest in car rallying, he joined the Humber team, as navigator, in the 1953 gruelling Redex trial around Australia. These rallies became world news because of the exploits of "gelignite" Jack Murray. The Humber team finished first in their own Division.

Bob eventually started his own Radiology practice at Ringwood, an outer Melburne suburb in 1958. In his profession, this man dedicated himself to being up with modern diagnosis and purchasing all the latest equipment available for his practice, particulary that with electronic gadgetry which he readily understood and he would have been one of the first in this country to install Ultra Sound equipment in a private practice.

He kept abreast of developments by study and discussions with associates in similar fields both in Australia and overseas. He was an Honorary Radiologist at the Alfred Hospital, the hospital where he did his training, a specialist consultant to the RAAF with the rank of Wing Commander and consultant in radiology to many country hospitals. He was always held in the highest esteem by patients, hospital staff and associate medicos for his calm, methodical and efficient methods of accurate diagnosis.

Bob's interest in yachting with catamarrans was overshadowed by his love of electronics and gadgetry with the will to assist newcomers to the hobby of electronics. Although already leading a hectic life of many hours per day in his profession Bob also took classes for Sea Scouts in CW. Without hesitation, when approached, he took over the arduous task of being Projects Officer for the Victorian Youth Radio Club Scheme and tirelessly worked to design, develop and distribute training aids in the form of kits throughout the YRCS club membership. His never ending enthusiasm and energy enthused others to assist in many ways and he was often seen at meetings of the Eastern and Mountain District Radio Club, where he was an inaugural member, lobbying for more accent to be placed on youth training and participation.

In the last decade, Bob became interested in the appreciation and projection of 16mm films, VHF and UHF operation, computer programming, fast scan TV, video and digital electronics. To further update his knowledge of his profession and interests he was able to make five trips overseas, on each occasion accompanied by one of his children.

Bob accomplished whatever he attempted, made friends wherever he went and is a sad loss to his profession and the hobby of amateur radio.

Condolences to his family from all who had the pleasure of knowing him and the amateur fraternity as a whole, where he will be sadly missed.

Jack VK3XL Ike VK3OW Ken VK3AH
AR

ARTICLES & PHOTOGRAPHS
are always required by AR.

A SAILOR'S GUIDE TO AMATEUR RADIO

Contrary to popular opinion, the common terms listed below would have been invented to describe radio if it hadn't been for the fact that sails were invented first.

MASTS are upright poles for mounting skyhooks.
SKYHOOKS are sticks used to attract skip.
SKIP is long distance amateurs.
Amateurs are often caught in nets
DX NETS are refined models for catching rare or weak amateurs
RIG is a radio connected to top most rigging on the mast.
LUFF. Reaction to hearing something funny on the rig
KEELHAUL. What an amateur would like to do to the next harmonic he sees throwing rocks at his rotator.
ROTATOR. Auto pilot for sky hooks.
HARMONICS. Spurious emissions produced by amateurs & XYLs.
DRIFT. Moving away from the net.
DX. Marks de course on de charts.
BOW. Bravado guilt reaction by pirate when unexpectedly visited by RI.
HULL. Memorial VHF contest trophy.
DIPOLE. Used instead of spinnaker pole during contests
BEAM. Large wind loading on mast which enables amateurs to reach for distant skip.
CLIPPER. Addition to basic rig to get more effective power out of energy available
WAVELENGTH. Determined by size of rocks.
BREAKERS Interruptions to wavelength
LOG. Who went where and when.
MARKER. Helps you find your channel.
CHANNEL. Operating space between markers
RIT. "Really in trouble" when heading through nets due to excessive drift.
VFO. "Very funny operator" (one who luffs a lot).
RADARS Rockhampton and District Amateur Radio Society

73s
VK4VHQ
AR

NOTICE

All copy for inclusion in October 1984 Amateur Radio must arrive at Box 300, Caulfield South, Vic., 3162 no later than midday 24th August.

HAMADS

PLEASE NOTE: *If you are advertising items FOR SALE and WANTED please write on separate sheets, including ALL details, eg Name, Address, on both. Please write copy for your Hamad as clearly as possible, preferably typed.*

*** Please insert STD code with phone numbers when you advertise.**

- Eight lines free to all WIA members. $9 per 10 words minimum for non-members.

- Copy in typescript please or in block letters double spaced to PO Box 300, Caulfield South 3162.
- Repeats may be charged at full rates.
- QTHR means address is correct as set out in the WIA current Call Book.

Ordinary Hamads submitted from members who are deemed to be in the general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being resold for merchandising purposes.

TRADE HAMADS

Conditions for commercial advertising are as follows The rate is $15 for four lines, plus $2 per line (or part thereof) minimum charge $15 pre-payable Copy is required by the deadline as stated below indexes on page 1

AMIDON FERROMAGNETIC CORES: Large range for all receiver and transmitter applications. For data and price list send 105 x 220 SASE TO. RJ & US IMPORTS, Box 157, Mortdale, NSW 2223 (No enquiries at office 11 Macken Street, Oakley, 2223)

MINIATURE ANTENNAS. HQ-1 hybrid quad antenna for limited space. Covers 6, 10, 15, and 20 metres. Boom only 1.45 metres long. Element length only 3.35 metres. Details from WATCHMAN ELECTRONICS, 28 Elouera Crescent, Woodbine, NSW, 2560. Phone: (046) 26 6101.

WANTED — NSW

CIRCUIT DIAGRAM for Belcom 2m linear amp., model LA-106. Colin VK2COL, 12 16 Hutchinson Street, Granville, NSW 2142.

CRYSTALS for IC-21A/IC-22A for old repeater ch 7 – now 6950 – marked R146.95 and T146.35; HC-25u holders. Alan VK3AJP, Unit 2, Lot 1537, 44 Pacific Way, Tura Beach, NSW 2548. Ph.: (0649) 59 275.

WANTED — VIC

POWER SUPPLY 12V DC to suit Galaxy 111 tcvr – in GC 800V DC @ 500mA, 350V DC @ 200mA, negative 100V DC @ 35MA, 12.6V DC @ 5A, 12.6V DC @ 1A. Replies to VK3AH, QTHR. All letters answered.

WANTED — QLD

CIRCUIT DIAGRAMS and/or handbooks for Philips CRO, model GM-5650. Also Philips oscillator model GM-2891 55. VK4ZU, QTHR. Ph.: (079) 46 6467.

FOR BIRD THRU-LINE WATT METER, Power modules above 1GHz. David, VK4ATE, QTHR. Ph.: (07) 399 1343 after 6 p.m.

KENWOOD ANTENNA TUNER AT-120, AT-130 or AT-180. Replies welcome from interstate. Please contact Mike VK4VIX. PO Box 101, Toowoomba, Qld. 4350 or Ph.: (076) 32 7455.

WANTED — TAS

YAESU FT-50, FT-100, FT-100DX tcvr, complete, in clean or near mint condition. VK7AN, QTHR. Ph.: (003) 31 7914.

FOR SALE — ACT

COLLINS 30L-1 LINEAR $550. Collins 75S-3C rx $550. Collins 62S-1 6 & 2m transverter $500. Icom IC-730 $500. Drake R7A rx with 9, 4, 2.3, 1.8 & 0.5 kHz filters $1,600. Icom IC-22A with ch 2, 3, 4, 6, 7, 8, 40 & 50 $200. Emotator 1103-MXX $150. Offers? George. Ph.: (062) 47 3296 or 54 1985.

FOR SALE — NSW

COMMODORE COMPUTER 32k with dual disk drive, tractor printer, software for RTTY, CW, SSTV, mailbox $2850 in orig. cartons. Antennas, TH3JNR with balun $100. Avanti 2m mount on glass, new in carton $45. VK2BHE, QTHR. Ph.: (066) 24 1447.

ICOM IC-502 6m SSB tcvr with small, 15W, home brew linear amp & 5 el yagi aerial. 12V DSE power supply. $250 complete. VK2RR. Ph.: (02) 477 3829.

KENWOOD R1000 rx 200kHz-30MHz. exc. cond., instr manual $325 ONO. Kenwood VFO 120. Your second VFO for the TS-120S, brand new in orig. box with instr manual $125 ONO. RCA AR-88D rx with 3kHz mech filter, 100kHz xtal marker, instr manual. What offers? Art VK2AS. Ph.: (02) 467 1784.

MAGNUM "6" SIX SPEECH PROCESSOR, suit Collins or KW series, $100. 5 band 2 kW ATU HB $50 144 MHz AM tx, xtal & VFO $35. 5 band T/R HF, needs repairs. P/supply is O.K. $50. 2X Telecon AC-DC tuneable T.R $20, 3 band HF beam 28, 21, 14 MHz, brand new, still in box $300. Old telephones $30. Ph.: (043) 96 4553

SONY BETAMAX VIDEO CAMERA HVC-3000P (was $1395), Sony SLF-1E portapack and AC F-1AS power supply (was $1149), NP-1 nicad battery (was $70), DCC-2500 DC converter (was $64), plus dubbing monitor leads. All in perfect cond. $1600 the lot. Wait for it the buyer will receive GC-3300E JVC colour video studio camera complete with colour compensator, extension lead, UV filter, all in aluminium carry case (FREE). M. Stahl VK2AHD, QTHR.

SWAN 350 tcvr 80-10m with power supply & manual, $200 ONO. Dave VK2CDB. Ph.: (02) 543 4137.

TOA TA-265 solid state public address amp., 15W RMS, 2 mics., 1 aux. line or VC output, 240V AC or 12V DC, V.G.C., $125. Barry VK2ETH, ex L20942, QTHR. Ph.: (065) 83 7928.

VIDEO TAPES, new, 7" x ½", $10 each. G. Campbell, VK2ZQC, QTHR. Ph.: (02) 81 2143.

YAESU 107M mem WARC, only few months old, still under guarantee, $750. VK2ETF. Ph.: (049) 45 4989.

YAESU FT-101E & FRG-7. Good cond., 10 15m beam, SWR meter, coax. switches, power supply, etc. Any reasonable offer considered. Ross VK2KDH, QTHR. Ph.: (069) 21 4415.

YAESU FT-480R 2m all mode tcvr, complete with scanning mic. & mobile bracket, $375 ONO. Philip VK2DPN, QTHR. Ph.: (049) 43 4220 or (049) 43 0363.

FOR SALE — VIC

IC-720A HF ALL BAND tcvr, general coverage rx with desk and hand-held mic. Beautiful cond., includes manual, orig. box, etc. $950. VK3DWY, Dingley Village. Ph.: (03) 551 4412.

ICOM IC-751 $1399, IC-25H, 45W 2m $399. SWR meter similar to OSCAR BLOC, $50 DAIWA LP filter, $12. 3 section co-linear 2m Antenna, $65. PS-30 25A switch mode supply, $300. All new. George VK3CUK. Ph.: (03) 687 6778.

ICOM IC-R70 rx, as new, 10 mths old, $550. Ph.. (052) 48 1410 AH

RTTY/MORSE PROGRAMME for VZ-200 computer by ZL1BNV. Split screen type ahead buffer, etc. Contact VK3BUS, QTHR. Ph.: (054) 26 1233.

SSTV, W6MXV FAST/SLOW CONVERTER. ¼, ½, full frame selection, gray scale, $125. Stan VK3BHZ, QTHR. Ph.: (060) 71 2444

TET SWISS QUAD ANTENNA 15m $100 ONO. Laurie VK3DPD, QTHR. Ph.: (03) 818 6009.

FOR SALE — QLD

FT-707 & CW-N FILTER, mobile bracket & lead, home-brew ext VFO, all V.G.C., $550. Graham VK4KGG. Ph.: (07) 64 911 (M), 198 (W) or 567 (H).

ICOM 451 $600, IC251 $600, linears MML 432 100 $350, MML 144/100 $200, Log periodic-19 el 50-600 MHz, 300W balun, new, $160. VK4LC, QTHR. Ph.: (075) 45 1732.

KENWOOD TS-520S tcvr $400, AT-180 antenna tuner $80, MC-10 mic, $10. Manuals incl. Very little use. George VK4ANZ, QTHR. Ph.: (076) 32 4863.

LINEAR – 100W 6m Ben, $120. Kevin. Ph.: (07) 201 3006 A/H, (07) 377 3785 B/H.

THREE ELEMENT HIDAKA BEAM. 15 & 10m bands, Olus Kempro rotator, $250. VK4KCF (VK4VIB 1983), QTHR. Ph.: (07) 284 7739.

TR-7730 25W 2m FM tcvr, $300. TR-8400 10W 70cm FM tcvr $300. TR-2400 Kenwood hand-held with leather case, charger & spkr mic. $150. Contact Ross VK4IY, QTHR VK4AQK. Ph.: (075) 65 1445 A.H or weekends.

YAESU FRG-7 general coverage rx 0.3-30 MHz in orig. unmarked cond., no mods & complete with manual & circuit, $230 ONO. Ring Bert VK7TN at Townsville (077) 73 2020.

ZX-81 COMPUTER with 16k RAM pack memory, PSU & manual. Some software for amateur radio application, incl. excellent Morse generator & logbook, $200. Games & other software available at reasonable prices. Ph.: (070) 61 3286 or send cheque to John Brennan VK4SZ (free postage), 10 Tulip Street, Innisfail, Qld. 4860.

FOR SALE — SA

ICOM R-70 in orig. carton. 12V DC 240V AC, $475. Freight negotiable. G. F. Anderson, 415 Glynburn Road, Leabrook, S.A. 5068 or Ph.: (08) 31 8368.

FOR SALE — WA

TCA-1677 (which can be modified for use on 6 & 2m) $15. VK6LT, QTHR. Ph.: (09) 457 1080.

FOR SALE— TAS

ICOM IC-211 all mode 2m base tcvr $400. IC-2A 2M hand-held 400 ch, leather case, aerial, charger $200. Both in G.C. Adrian VK7AS, QTHR. Ph.: (004) 28 4121 or (004) 27 8992 B H

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Updated Information for Members

PLEASE NOTE THE FOLLOWING CORRECTIONS AND MODIFICATIONS TO DETAILS PUBLISHED IN THE JULY ISSUE OF 'AMATEUR RADIO' REGARDING THE 1984 REMEMBRANCE DAY CONTEST.

CONTEST CALENDAR. 'AUGUST'. 18-19 [redacted] Remembrance Day Contest.
Please note that this date is different to that shown in the Contest Calendar as published in the july issue.

Please accept apologies for the fact that the scoring rules for the contest were not properly spelled out. The applicable section should read as follows:-

5. SCORING CONTACTS.

(a) On all bands a station in another call area may be contacted once on each band using eaCH MODE. That is, you may work the same station on each of these bands on Phone, CW, RTTY, and SSTV.

(b) Section (a) Rule 3 Phone contacts score one point.
CW and RTTY contacts (b) Rule 3 score two points.
Cross Mode Contacts. CW/RTTY to Phone score one point. CW to RTTY contacts score two points.

You will note that this change is brought about due to the fact that it was decided that CW contacts under Section (b) Rule 3 now score two points per contact.

(c) On the bands 52 MHz and above, the same station in any call area may be worked using any of the modes listed in Rule 3 at intervals of NOT LESS THAN SIX HOURS since the previous same band/mode contact. However, the same station may be contacted repeatedly via satellite not more than once by each mode on each orbit.

(d) Acceptable logs for all sections shall show at least 10 valid contacts.

With reference to the Example TX LOG. Please note that this can not possibly be an example of 'Page 4 of 10' with a progressive total as shown. It can only be interpreted as the first page of a log begun at the contest opening time of 0800 UTC on 18th August.

Please also note that the example shown in Figure 2 of the 'Dupe Sheet' article is incorrect. This does not indicate the callsign of VK8BD neither can such a designated square be used for the callsign P29BD as stated in the text The example is for the callsign VK8AD. Do not be misled, as if my memory serves me right this is a mistake which has been perpetuated over the last several years, so don't go back to a previous issue and be led into error.

DATE FOR RECEIPT OF ENTRIES FOR THE 1984 REMEMBRANCE DAY CONTEST

10. ENTRIES.

Entries must be set out as shown in the example using one side of paper only. Envelope must be marked 'Rememrance Day Contest' posted to FCM, Box 1234, Adelaide, S.A. 5001. The closing date for receipt of entries will be 28th September, 1984. Any entries received after this date will not be accepted.

I trust that these additions and corrections will not inconvenience any of you, however the rules as published had been previously submitted and I had little chance to review them.

Authorised by Ian Hunt, VK5QX, Federal Contest Manager.

Insert in AMATEUR RADIO, August, 1984.

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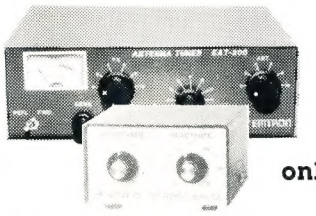

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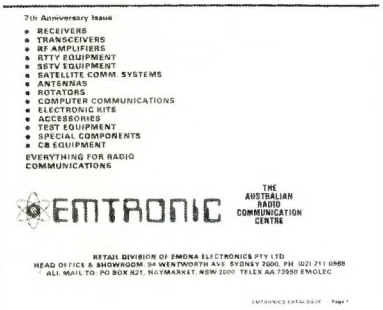
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The new IC-O2A has a battery lock, frequency lock, and lamp on/off switch. An aluminum case back is provided for superior heat sinking when the IC-O2A is run at the standard 3 watt level or 5 watts (optional battery pack).

A variety of batteries will be available for the IC-02A including new long-life 8.4 volt and 13.2 volt packs. Charging may be done from a top panel connector for 13.8 volts which will also power transceiver operation.

ICOM's IC-2A(T) continues to be available...and its complete line of accessories work with the new IC-O2A.

The IC-O2A comes standard with BP3 NiCd battery pack, BC25U wall charger, flexible antenna, wrist strap and belt clip.

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